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A City Winery - Revealing Process + Promoting Interaction

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{ A CITY WINERY

REVEALING PROCESS +
PROVOKING INTERACTION

ELINE WARREN

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MFA – INTERIOR ENVIRONMENTS

Architecture is the art of reconciliation
between ourselves and the world, and this
mediation takes place through the senses

– JUHANI PALLASMAA

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Design is the study of human experience.

Space is formed for human safety and shelter, but perhaps it is more useful to think of space as a place to grow, feel, experience, create and provoke memories.

By attending to the senses, the design process can yield a sense of place through strategies and solutions that bring people together while also providing them with moments of self-reflection.

I believe it is our duty, as designers, to continue our investigation into the senses. How we can better examine what it means to see, hear, smell, taste and feel the spaces in which we live? To successfully harness sensory experiences, and the spaces in which they occur, we strive to understand richer and more fulfilling environments.

~~~~~ { PART ONE



RESEARCH

4.1

#### MOTIVATION

This thesis project is an exploration of process in both design and winemaking. Wine has long been a part of Virginia's history and culture and in recent years has influenced architecture and design that is specific to winemaking and hospitality. This explosion of creativity has provided this exploration with many regional precedents in and around Richmond, Virginia. Richmond is 100 miles south of Washington, DC and 70 miles southeast of Charlottesville which are both home to many of Virginia's major wineries. In Richmond there has been a resurgence in craft production, especially craft beer and cider, in historic neighborhoods such as Scott's Addition. Added to the National Register of Historic Places in 2005, Scott's Addition is home to many notable architectural styles and is directly adjacent to entry and exit points for Interstates 64 and 95. This craft oriented, accessible and architecturally rich neighborhood would be a suitable home for an urban winery.

#### PROBLEM

This project addresses the many challenges of marrying production and hospitality design criteria under one roof. According to James Conaway (Virginia Terrior, *Garden & Gun*), Virginia wineries have a tendency to cash in on tourism rather than quality, where the real crop isn't grapes but eventing. The majority of wineries in Virginia host events- weddings, concerts, polo matches, etc (Conway). These events bring tourists, however, since for many of the wineries their production facilities are off-site and closed to the public, these tourists do not experience winemaking. In a time where craft and process are wanted elements in

the tourist experience, this gap in the Virginia wine industry invites a design exploration such as this.

An emphasis on production methods is especially important in Virginia where grape growing and wine making is incredibly challenging because of the terror. It has only been in last few decades that the state has begun to yield drinkable and sometimes exceptional wines. For this reason, the industry needs to focus on quality and collaboration alongside of tourism and hospitality.

The additional question that feeds off the previous problem and is rooted in the concept of the space is how a space can reveal process. This notion of process includes both facets of this project, wine and design. Processes that wish to be revealed within this space include wine but also construction, materiality, circulation and spatial integration (procession through the variable spaces). In regards to the wine process, the following stages wish to be revealed and celebrated: receiving (delivery, crushing/destemming, pressing), fermentation, barrel or stainless steel aging, bottling and distribution.

#### METHODS

Wine architecture and design projects will be analyzed to explore this fairly new intersection of creativity. These include the architectural projects of Dominus Winery, designed by Herzog & de Meuron in Napa Valley, California and Antinori Winery in Chianti, Italy. Dominus Winery which will be studied for its innovative construction method and Antinori Winery, designed by Archea Associati, is studied to inform the layout of the production facility and a particular

wall system created to house wine and other items. Readings specifically related to Virginia wine and winemaking will also be vital in this exploration to better understand the nature of Virginia grapes and wine making as well as the process of winemaking from a pragmatic perspective.

In addition, readings on the importance of the senses to the design process will be considered and incorporated into this exploration. These include *Atmospheres* by Peter Zumthor, essays written by Juhani Pallasmaa and Steven Holl in the collection of essays *Questions of Perception: Phenomenology of Architecture*, and Pallasmaa's *Eyes of the Skin: Architecture and the Senses*. These written works are associated with the complex and highly theoretical notion of the phenomenology of architecture which is inextricably linked to the senses. Along with these readings, Peter Zumthor's built work, Therme Vals, a thermal bath/spa in Vals, Switzerland, will be analyzed to inform how a space is created to provoke a multi-sensory experience.

## RESULTS

A City Winery is designed to encourage understanding of process through links between production and consumption with both a winemaking facility and laboratory that is visually linked to the restaurant, tasting rooms, and wine shop. The visual exposure to the facility in the hospitality-based spaces will stimulate patron interest and intuitive knowledge of the intricate nature of the wine making process. This can be further explored by the patrons through production facility tours that will occur on a daily basis as well as opportunities for patrons to sign up to make wine

during the post-harvest season. These activities give patrons the opportunity to understand wine on a more haptic level where they engage with the product physically instead of just simply as a visual stimuli.

The concept of process is revealed through the use of materials and their application, designed in such a way to encourage patrons to explore how they are constructed. The use of natural materials that patina are used to celebrate the aging process that is inextricably linked to both design and wine. In addition, new ways of using materials that are part of the wine making process are employed to expose patrons to nuanced aspects of the process that otherwise remain hidden.

Circulation through the spaces expose patrons to the production and service sides of the industry simultaneously to further solidify their natural linkage. Thus, the wine shop is visually linked to the bottling facility, the restaurant and tasting rooms to the fermentation facility and the lobby to the cellars below.

Through the analysis of Therme Vals, an environment with high contrast is critical to creating a sensory experience. This contrast can take the form of light and shadow, expansive and compressed volumes, partial views that provide an element of mystery and discovery and a circulation path that promotes meandering. These elements are incorporated into the design solution to create various atmospheres within the space and to promote the sensuous nature of wine and wine consumption.





7.1

#### PHENOMENOLOGY

Phenomenology, in its simplest terms, can be described as the description and interpretation of experience. Experience presupposes the interaction of the sensory system and its subsequent interpretation of phenomena.

Phenomenology is a term and school of thought defined by the German philosopher Edmund Husserl in *Logische Untersuchungen* (Logical Investigations, 1900, 1901). He sought to develop a method of inquiry based on the body (phenomenology of wine) and so opened the doors for many other philosophers to study thought and consciousness through subjective experience. Phenomenology is therefore a highly subjective study that operates on "the identification of underlying, lived patterns and relationships shared by many lived instances of the phenomenon" (Seamon, 2015).

The phenomenology of architecture is the study of the experience of built environments. Those architects that variably fall into the realm of phenomenological study inquire upon architectural experience from a personal perspective and although each have unique avenues of pursuit and concern, what does not waver between their line

of thinking is this notion of feeling; that there should be, and in quality architecture there is, a sense of embodiment where building and body are in a holistic dialogue.

Phenomenologist and architect Juhani Pallasmaa argues that contemporary architecture has a tendency to focus on the visual realm of human experience, leaving much to be desired when one is actually within and experiencing the built environment. In much of his writings he calls for a reintroduction of "a deeply sensuous dimension into environmental design", the aim of which is to bring people closer to their essential nature in relation to the matter, space and scale of their environment (Seamon, 2015).

Pallasmaa explores these ideas further in his essay "An Architecture of the Seven Senses" in *Questions of Perception-Phenomenology of Architecture*, a collection of essays by Alberto Perez-Gomez, Juhani Pallasmaa, and Steven Holl. The seven senses Pallasmaa identifies are "eye, ear, nose, skin, tongue, skeleton and muscle" (Pallasmaa, 30). Pallasmaa explains how the non-visual senses allow the sensor (human) to become one with the space because the body is directly interacting with it, whereas the visual

sense inherently creates distance and separation because the eye engages with objects at a distance and not directly (Pallasmaa, 28-36).

Steven Holl contributes the final essay to the collection, titled "Archetypal Experiences in Architecture". He addresses several visits he took to historically significant architectural spaces such as the Pantheon in Rome, Rochamp, Ryoanji Temple in Japan and the Johnson Wax building by Frank Lloyd Wright. Each time Holl visited these spaces, he experienced them quite differently (for various reasons, from mood to weather to time of year). This subjective interpretation of his experiences led to the realization that architecture is always perceived in partial views (Holl, 123-135).

In Pallasmaa's *Eyes of the Skin- Architecture and the Senses*, he focuses on touch and its importance in the built environment. He makes a compelling argument for previous cultures that dealt in richer form-making through a more haptic method of construction (mud huts). This type of construction that is inextricably linked to the hand and to touch is lost in modern times where a visual perspective

finds dominance (advent of Renaissance perspective drawing and the ease of mobility and communication through visuals).

He furthers this point to make a connection to a loss of temporality (aging) in architecture where the materials produced and applied do not show age or use (patina) and hide their processes of construction from the person engaging with it, further divorcing or separating the subject from the object instead of bringing this relationship closer (Boyle, 2).

The phenomenology of architecture is looking to reengage the users in a way that speaks to them, can impart knowledge, stimulate, and provoke return. As can be garnered from Pallasmaa, this school of thought gained strength in the face of modernism, calling for humanity to be revealed in built environments, not hidden in materials and forms unknowable to the human body.

#### ATMOSPHERE

Peter Zumthor's *Atmospheres* is a lecture in which he seeks to ask and answer the question: What do we mean when we speak of quality architecture? His answer is

simple: Quality architecture is when a building manages to move him. Of course, the obvious follow up question to that is what moves him? His answer is again simple: atmosphere. Atmosphere for Zumthor is the feeling one gets from being in a space—this feeling is an immediate emotional sensibility, like a first impression when meeting someone. It is a gut reaction that is based on intuition. He probes into the strategies used in his design process to create atmosphere and these strategies, including light, surrounding objects, air, materiality, and sound. His straightforward, yet highly personal lecture imparts a beautiful message for the potential emotional catharsis and intimacy architecture can have on a person (Zumthor, 1-60).

### 1600s

In the era of British colonization, the Virginia Company intended to utilize the land and resources to profit where the British were unable to at home. Wine was one of these major profit targets. Despite exhaustive efforts to grow the European vinifera vines in Virginia, colonists were forced to acknowledge that the climate was unsuitable for the growth of these particular grapes. (*Virginia Wine: History Uncorked*).

### 1700s

Despite the failed attempts to successfully grow and bottle Virginia wine in the 17th century, the General Assembly continued to grant money and offer other incentive programs to continue their pursuit of production. Thomas Jefferson, one of the advocates for Virginia wine production, is known as the "first father of American wine," despite never successfully producing a bottle of wine from his vineyards. However, Charles Carter did find success in Virginia. He is said to have grown 1,800 vines on his Virginia property, and The London Society awarded him a gold medal of recognition for being the first to accomplish wine production in Virginia (*Virginia Wine: History Uncorked*).

### 1800s

In 1821, Dr. Daniel Norton discovered what would later be called the Norton grape in Richmond, Virginia. It is believed that he was the first to make this discovery, however this fact is disputable. The Norton grape is native to the Virginia land, and therefore is resilient to the harsh climate, proving itself to be competitive as a world class grape for wine production and consumption.

Additionally, around the 1870s, the discovery of grafting grape vines proved to make European grape vines more resilient to North American pests. Grafting is a horticultural technique whereby tissues from one plant are inserted into those of another so that the two tissues join (Halliday, 2007). This helped advance vine and fruit production, as well as allowing for successfully crossing the Norton grape with the vinifera vines that previously could not find feet in the Virginia soil (*Virginia Wine: History Uncorked*).

### 1900s

During the 1900s, Prohibition, the illegal production and consumption of alcohol, hit the United States. This impacted Virginia and its wineries. Although it took years to recover from the effects of Prohibition, the late 1960s saw an exponential growth in the wine industry as well as a general recognition that the industry was beneficial for the State's economy.

In 1980, the Virginia Farm Winery Act was passed to help support the local Virginia wine industry and production of grapes by implementing a favorable tax for vineyards that grew local grapes like the Norton. In 1983, the Virginia Wineries Association was established to serve and support the Virginia Farm Wineries. In addition, Virginia Vineyards Association was established to encourage information exchange and cooperation within the industry (*Virginia Wine: History Uncorked*).

### 2000s

In 2004, there were 78 wineries in Virginia, and the state government established the Virginia Wine Board to further aid and monitor the industry.

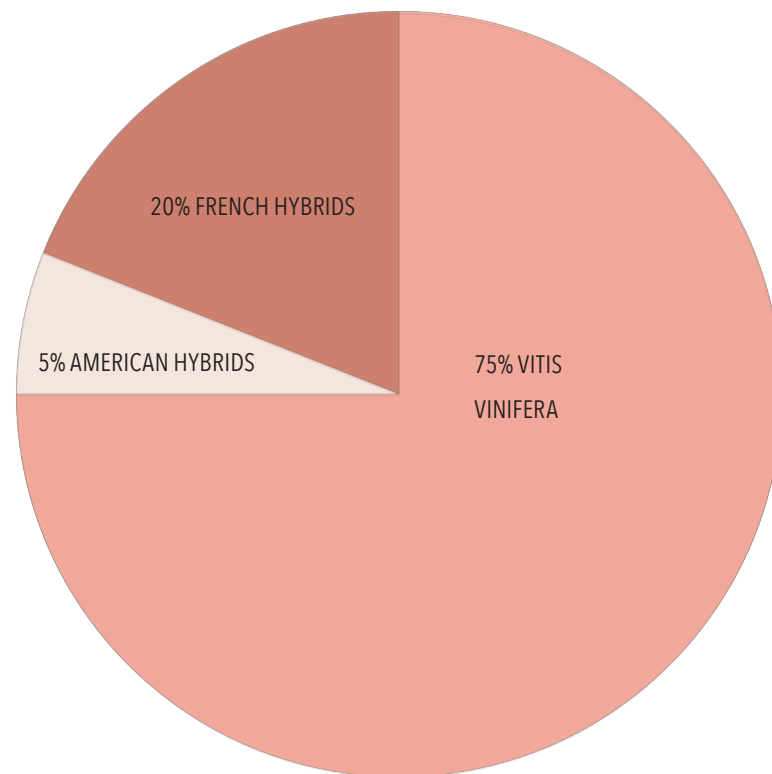
In 2011, the Virginia Wine Board declared that focus be given to the Viognier grape, establishing it as the official state grape. This is in spite of the Chardonnay grapes being the majority grown in the state.

In 2012 and 2013, the Virginia Wine Board's annual report estimated a 66 percent increase in the number of wineries from its inception in 2004.

As of 2015, Virginia is ranked as 5th in the United States in wine production, with more than 250 wineries throughout the state. (*Virginia Wine: History Uncorked*).

{ VIRGINIA GRAPES

11



PERCENT PER TON OF  
VARIETALS IN VA

VITIS VINIFERA

Pinot Gris, Vidal Blanc, Cabernet Franc, Viognier, Sauvignon Blanc, Petit Manseng, Cabernet Sauvignon, Cabernet Franc, Pinot Noir, Gewurztraminer, Riesling, Vidal blanc, Zinfandel, Muscat, Rkatsiteli, Malbec, Petit Verdot

FRENCH HYBRIDS

Chardonnay, Chambourcin, Merlot, Seyval Blanc, Syrah, Villard Blanc

AMERICAN HYBRIDS

Traminette, Norton

---

{ TOP FIVE VIRGINIA VARIETALS



CABERNET FRANC 12.1



VIOGNIER 12.2



CHARDONNAY 12.3



MERLOT 12.4



VIDAL BLANC 12.5

## { VIRGINIA REGIONS + AVAS

An American Viticultural Area (AVA) is a designated wine grape-growing region in the United States distinguishable by geographic features, with boundaries defined by the Alcohol and Tobacco Tax and Trade Bureau (TTB) of the United States Department of the Treasury

- Richmond City lies slightly in two AVAs, the Monticello AVA and into the George Washington Birthplace AVA. Richmond lies along the Fall Line, which divides the city and surrounding counties into two regions; to the east, the coastal plains, and to the right, the tidewater. This gives Richmond an interesting character geographically. Within the winemaking business in Virginia, there is a lot of comradery on a regional scale between the makers. It is vital for them to all share, discuss, and explore techniques and strategies, as the terroir of VA is challenging. In this way,

### BLUE RIDGE

THE NORTH FORK OF ROANOKE AVA  
Eastern slopes of the Allegheny Mountains in Roanoke and Montgomery counties

THE ROCKY KNOB AVA  
Floyd and Patrick counties on the eastern slopes of the Blue Ridge Mountains

SOIL TYPE  
loamy + gravelly + well drained

GRAPES  
WHITES: Pinot Grigio, Petit Manseng, Saugivon Blanc, Traminette, Vidal Blanc, Viogner  
REDS: Cabernet Franc, Cabernet Sauvignon, Chambourcin, Merlot, Pinot Noir



### CENTRAL VIRGINIA

THE MONTICELLO AVA  
Eastern slopes of the Blue Ridge Mountains and encompasses the small ridge known as Southwest Mountain

SOIL TYPE  
granite-based clay

GRAPES  
WHITES: Chardonnay, Gewürztraminer, Riesling, Sauvignon Blanc, Seyval Blanc, Vidal Blanc, Viogner, Zinfandel, Pinto Gris, Muscat Canelli, Muscat of Alexandria, Rkatsiteli  
REDS: Cabernet Franc, Cabernet Sauvignon, Chambourcin, Merlot, Pinot Noir, Malbec, Norton



#### CHESAPEAKE BAY

GEORGE WASHINGTON BIRTHPLACE AVA  
Westmoreland, King George,  
Northumberland, Lancaster and Richmond  
Counties

SOIL TYPE  
sandy loam

GRAPES  
WHITES: Chardonnay, Seyval Blanc, Vidal  
Blanc, Pinot Grigio,  
REDS: Cabernet Franc, Cabernet Sauvignon,  
Chambourcin, Merlot, Syrah



#### SHENANDOAH VALLEY

SHENANDOAH VALLEY AVA  
Frederick, Clarke, Warren, Shenandoah,  
Page, Rockingham, Augusta, Rockbridge,  
Botetourt, and Amherst counties

SOIL TYPE  
loamy + gravelly

GRAPES  
WHITES: Chardonnay, Riesling, Sauvignon  
Blanc, Vidal Blanc, Traminette, Zinfandel,  
Seyval  
REDS: Cabernet Franc, Cabernet Sauvignon,  
Chambourcin, Merlot, Norton, Petit Verdot



#### EASTERN SHORE

VIRGINIA EASTERN SHORE AVA  
Southern end of the Delmarva Peninsula

SOIL TYPE  
sandy loam

GRAPES  
WHITES: Chardonnay  
REDS: Cabernet Franc, Cabernet Sauvignon,  
Merlot, Petit Verdot

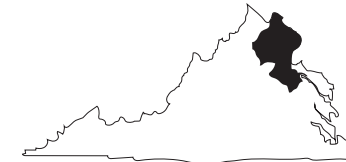


#### NORTHERN VIRGINIA

MIDDLEBURG AVA  
50 miles west of Washington, DC,  
encompassing the Town of Middleburg

SOIL TYPE  
eroded granite, sandstone

GRAPES  
WHITES: Chardonnay, Riesling, Sauvignon  
Blanc, Vidal Blanc, Traminette, Zinfandel,  
Seyval  
REDS: Cabernet Franc, Cabernet Sauvignon,  
Chambourcin, Merlot, Norton, Petit Verdot



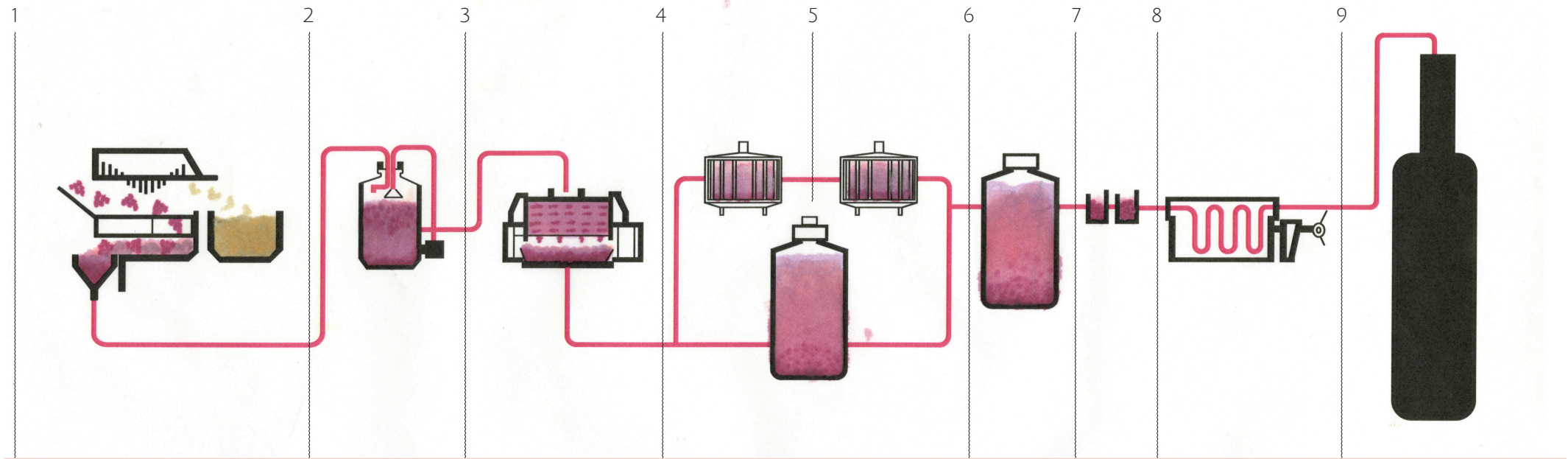






16.1





**1. CRUSHING + DE-STEMMING**  
Grapes are received and immediately placed in the crusher/destemmer where fruit is separated from stems and then gently crushed to extract juice

**2. FERMENTATION I**  
Yeast is added to the crushed juice, seeds and skins (must) to aid in alcoholic fermentation. Color, tannins and flavor are extracted by racking the juice during this stage, which is gentling pumping the juice out and back into the tank

**3. PRESSING**  
Wine is run through the press to separate the skins from the juice

**4. FERMENTATION II**  
During this second stage of fermentation, bacteria metabolizes malic acid and produces lactic acid and carbon dioxide

**5. AGING**  
Red wine is usually aged in oak barrels for one to two years depending on the winemaker's discretion. Some reds will be aged in stainless steel tanks, but this is less common.

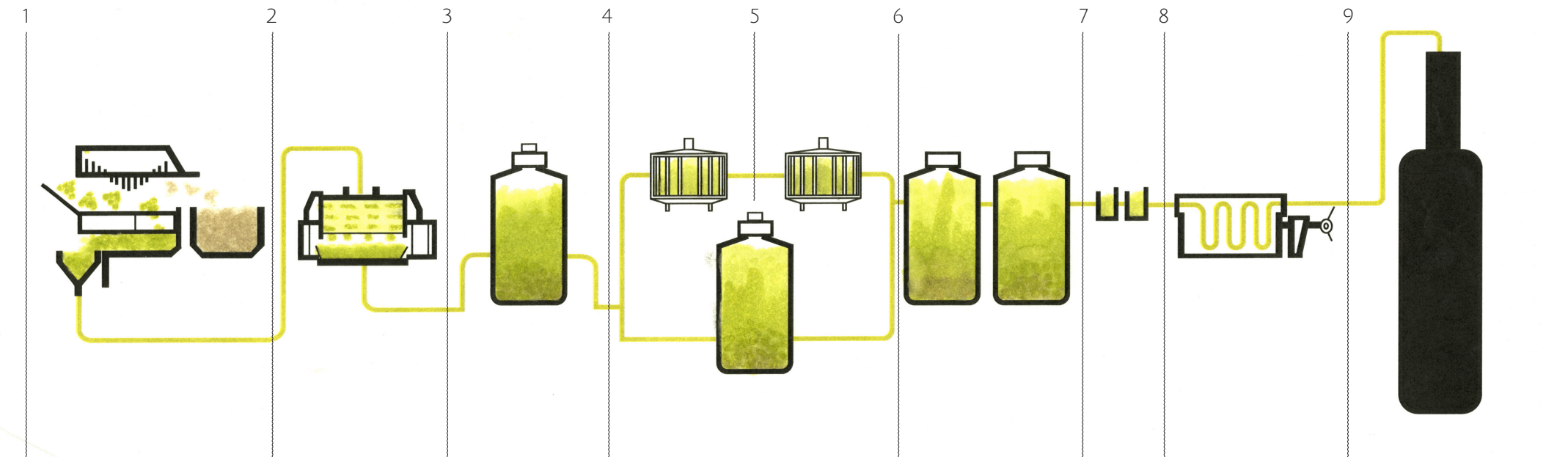
**6. FINING**  
Proteins and tartrates naturally remove themselves from the wine. This ensures stability

**7. BLENDING**  
Winemakers draw samples from the tanks to test. Here wines are either blended together as each batch will ferment slightly differently and thus have variable flavor concentrations.

**8. FILTRATION**  
Any remaining particles that affect clarity or quality are removed to ensure fermentation and spoilage do not occur in the bottle

**9. BOTTLING**  
Wine is bottled and corked with a bottling machine that ensures wine does not come into contact with the air, which can cause it to spoil





**1. CRUSHING + DE-STEMMING**  
Grapes are received and immediately placed in the crusher/destemmer where fruit is separated from stems and then gently crushed to extract juice

**2. PRESSING**  
Grape must (juice, seeds and skins) are run through the press to separate the skins from the juice. This step is responsible for the color differentiation between red and white wines

**3. CLARIFICATION**  
Freshly pressed juice is moved to a tank where it is left for one or two days to settle. This allows sediment to settle to the bottom of the tank

**4. FERMENTATION**  
Settled juice is racked into fermentation tanks where yeast is added to aid in the conversion of sugars into carbon dioxide and alcohol. Heat is generated during fermentation so tanks are cooled for control

**5. AGING**  
Depending on the winemaker's discretion, after fermentation white wines can either be aged in stainless steel tanks or in oak barrels. Sometimes wine is fermented in one for a while and then transferred into the other.

**6. FINING**  
Proteins and tartrates are removed from the wine to ensure stability in unfavorable conditions

**7. BLENDING**  
Winemakers draw samples from the tanks to test. Here wines are either blended together as each batch will ferment slightly differently and thus have variable flavor concentrations.

**8. FILTRATION**  
Any remaining particles that affect clarity or quality are removed to ensure fermentation and spoilage do not occur in the bottle

**9. BOTTLING**  
Wine is bottled and corked with a bottling machine that ensures wine does not come into contact with the air, which can cause it to spoil

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{ PART TWO





CASE STUDIES





Designed by Swiss architect Peter Zumthor, Therme Vals is situated over the a geothermal spring in the Graubunden Canton in Vals, Switzerland. Open since 1996, the concept behind the baths is in the form of an image in the architects mind which he describes as a cave or quarry-like structure. To maintain the views, the structure is carved out of the mountain side, with pools located underneath a grass roof. Light comes through gaps between sections of the roof which is used to highlight the Valser Quartzite slabs that make up the entirety of the structure. Zumthor was strongly inspired by the roofs of the old houses in the Vals valley, which lead him to experiment with the Valser Quartzite and allowed the project to connect more intimately with the site. He devised a system of stacking and arranging the slabs so that variety in pattern and texture is emphasized by the light (Goodwin, 2008). This attention to light and texture provokes the desire to touch and connect with the environment.

The combination of the linear yet irregular rhythm of the quartzite, light and shadow, and open and enclosed spaces creates a highly sensuous and restorative experience, connecting people to an ancient activity in a space that feels ancient. High contrast is critical to creating a sensory experience or atmosphere within a space. The idea of orientalism comes to mind when understanding this

concept of high contrast. To be able to fully understand something, the opposite must be understood. It is only in the context of contrast that dichotomies can be understood. As such to feel hot, one must know cold, to feel enclosed, one must know openness, to feel light, one must feel dark. If all that is experienced is one side of the spectrum, it is difficult to understand the opposite but also difficult to fully understand the condition you are in.

In addition to high contrast, Zumthor emphasizes a pattern of circulation that allows for exploration. He writes, "the blocks are loosely assembled in recurring figurative patterns, which are often tied into various orthogonal ordering lines. Underlying this informal layout is a carefully modeled path of circulation which leads bathers to certain predetermined points but lets them explore other areas for themselves. The large continuous space between the blocks is built up sequentially" (Lee, 2002). The concepts of meander, expansion and contraction, and discovery are diagrammed in accordance to Therme Vals to inform strategies within the thesis project to heighten the sensory qualities of a space.

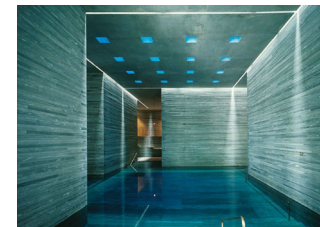
## { PROGRAM

1. entrance/exit
2. hall w/ spring water fountains
3. changing rooms
4. showers
5. water closets
6. sweat stone with Turkish showers
7. indoor bath, 32 degrees Celsius
8. outdoor bath, 30-35 degrees C
9. stone island
10. rock terrace
11. fire bath 42 degrees C
12. cold bath 14 degrees C
13. shower stone
14. sound bath 35 degrees C
15. flower bath 33 degrees C
16. sounding stone
17. drinking stone
18. resting space 1
19. outdoor shower stone
20. resting space 2
21. massage
22. resting space 3



25.1

25.2



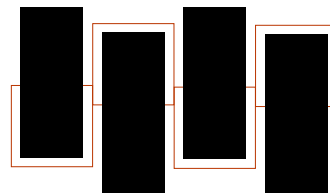
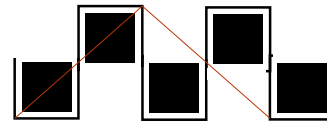
25.3

25.4

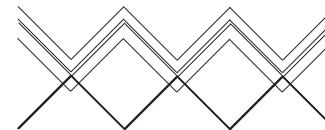
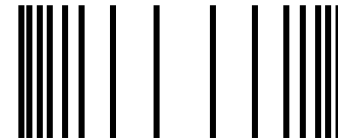
## { CONCEPT DIAGRAMS

Diagrams were developed through an exploration and analysis of concepts found within Zumthor's Therme Vals, relating to the creation of sensory experiences. The ideas of meandering and continually discovering new things within a space, where partial views through the space are controlled to create heightened interest and to provoke movement or procession through the various spaces. Expansion and contraction is diagrammed to better understand contrast in terms of volume and space.

MEANDER



EXPANSION +  
CONTRACTION



DISCOVERY





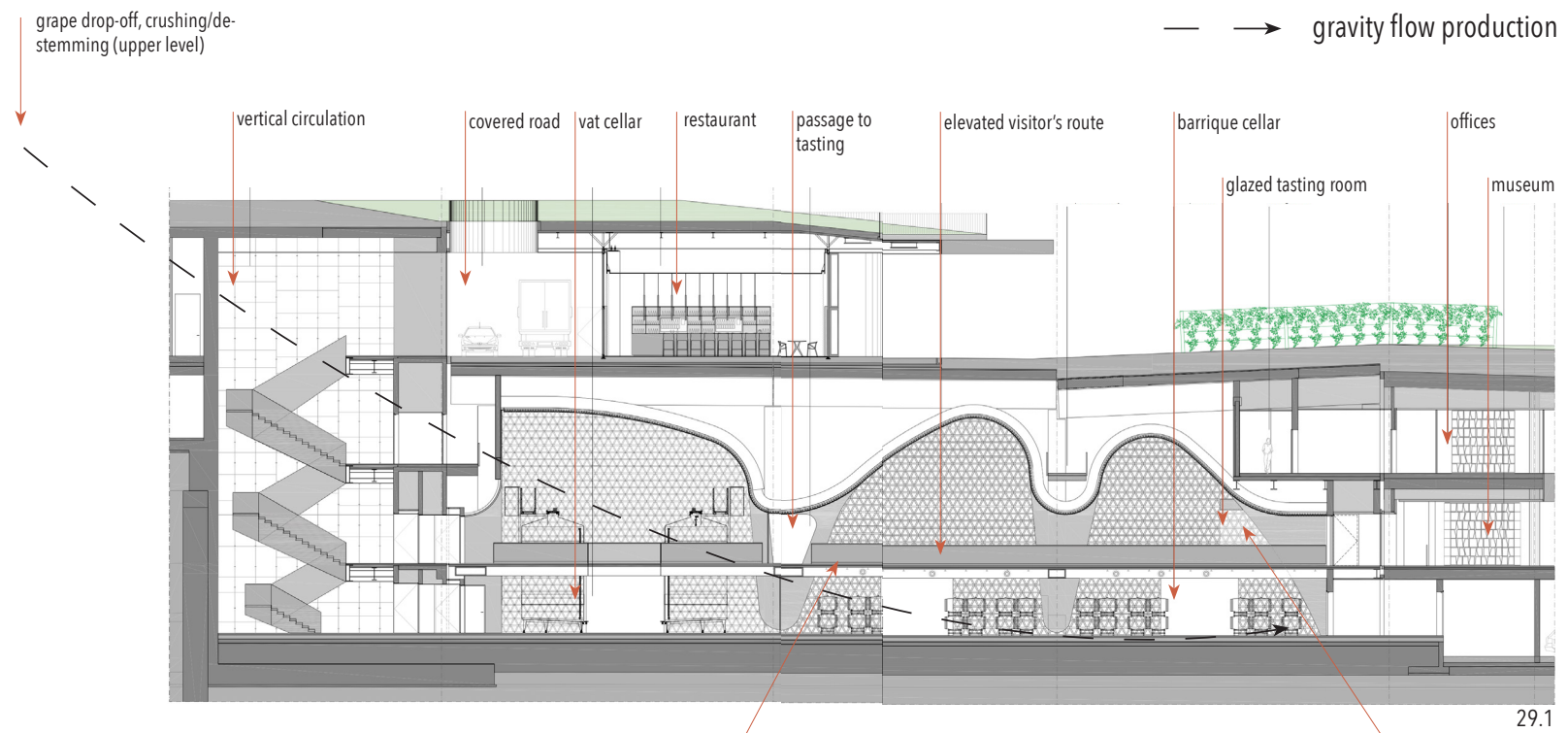
Antinori Winery, located in Chianti, Italy and completed in 2012, is an immense architectural feat. Designed by Archea Associati, a Florence-based firm with offices around the world, the new Antinori HQ, completed in 2012, is just outside the village of Bargino in Chianti, Italy. It is a building that is simultaneously industrial (a winery is, after all, a factory with warehousing), a visitor destination complete with museum and restaurant, and an office housing 120 people. The public face and administration area are at the front, factory functions are set higher at the back, and a sequence of wine vaults dug into the slope links the two. According to the architectural firm, the wine facility is designed to merge as completely with the landscape as possible, only seen as two horizontal slashes in the earth.

In section, the architecture reveals that the arrangement from top to bottom reflects the production process of the grapes which descend from roof (where they grow) to the fermentation tanks to the underground barrel vault. However, visitors to the winery take the opposite path and ascend from the parking area to the winery and the vineyards through the production and display areas, finally reaching the restaurant, auditorium, museum, library, wine tasting areas and sales outlet (Antinori Winery/Archea Associati,

2013, This Year's Vintage). The numerous facilities in the project are all planned so that the visitor can watch and feel part of the production activities which are all kept at the same time independent from the visitor's itinerary. The design successfully integrates and segregates the production facility through elevated routes, so, as visitors' ascend through the complex from the terrace, they walk over and above the various production spaces. Visitors are also exposed to the production spaces in the elevated tasting rooms, which cantilever out into the cellars.

An important detail in the project is the wall system created to house wines, books and other items that populate various areas of the space. The design of this system is analyzed to inform the creation of similar housing wall system needed for this thesis project and program. In addition to program, the use of a clay-like material will be considered to enhance the notion of an intuitive way to build. This means of construction reveals its process as a human endeavor, celebrating a more tactile or haptic way of building.





29.2



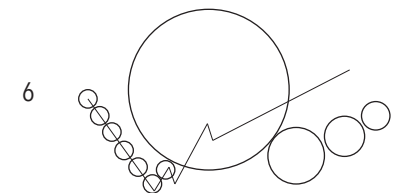
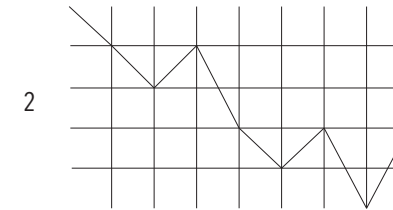
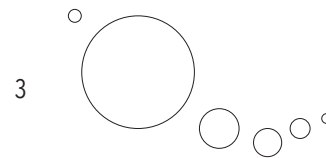
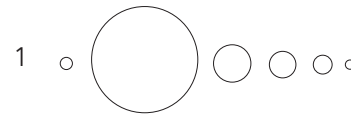
29.3

## { CONCEPT DIAGRAMS

An analysis of winemaking as steps in a process were created to inform the layout of the production facility. The functions within the facility include crushing/destemming, press, fermentation, age, filter, and bottle. The circles drawn in the diagrams change in scale due to changes in volume and vessel size (grape is smaller than fermentation tank, which is larger than a wine bottle, etc.) The diagrams also consider changes in momentum and longevity throughout the process. The diagrams are abstractions of this process and are a series of steps that show evolution of thought and layering of ideas..

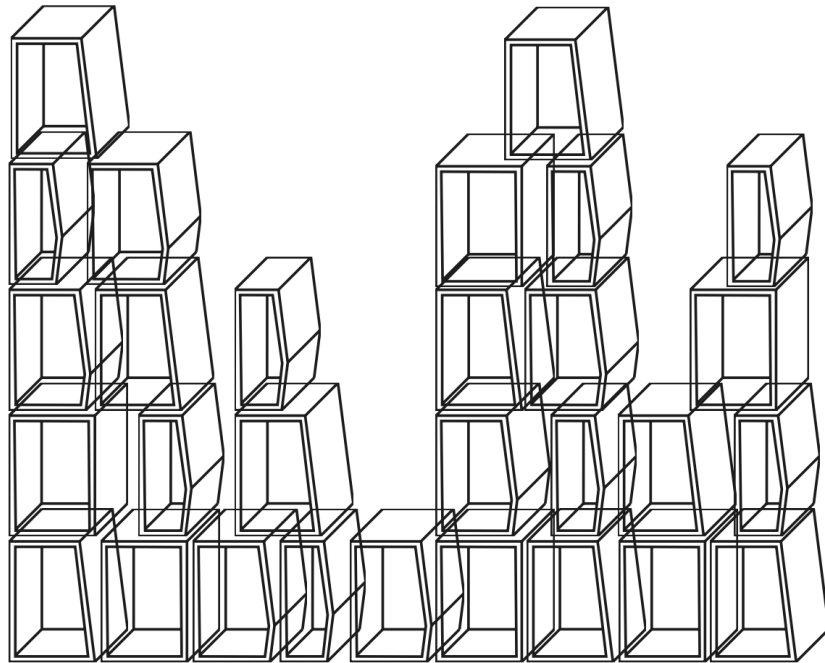
This informed a possible floor plan strategy for the production facility, and gave birth to ideas pertaining to the floor rising and falling with the process. The grapes go up into the building to be received, down to crush and ferment, down farther to the cellar to age, and back up to filter, bottle and drink.

## WINE MAKING





31



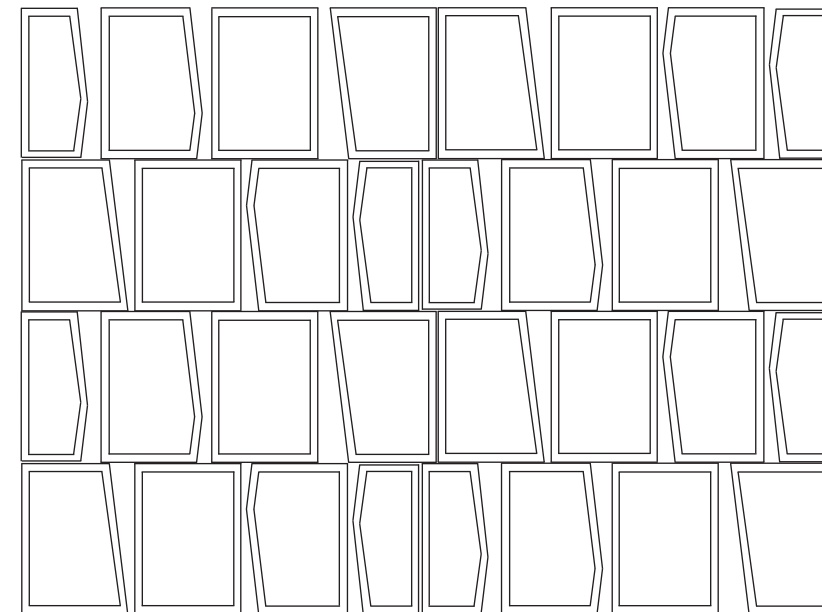
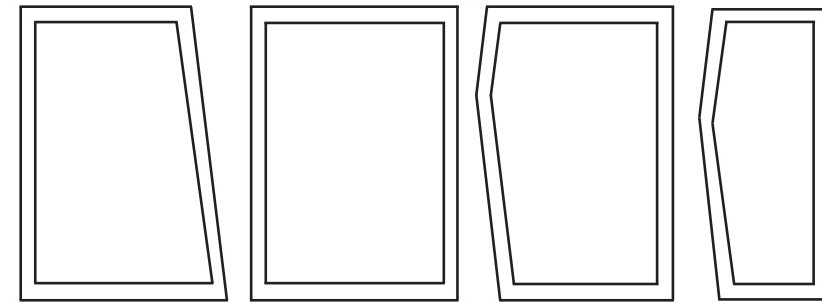
31.1



31.2

A reinterpretation of a simple square grid, the design of the Antinori wall system introduces four components that are self supporting and stackable. Originally designed in 2013 for a Booksharing project in Beijing Design Week, each unit can house various items, from books to wine bottles, as needed, giving the unit in itself much flexibility as far as display opportunities.

The flexibility and irregular rhythm of the Antinori wall system is achieved using the four components that can be oriented in several ways. The units are adhered to each other with a concrete-like material. This allows for the units to be constructed off site and brought to the building to then be stacked and adhered to each other. This allows for the composition to change depending on the specific conditions of the space. To achieve a straight vertical side, certain pieces must be used on the ends but the interior can be configured in multiple ways. This modular system is elegant and simple yet provides the space with a great richness in its irregular rhythm. Terracotta is used as the material that humanizes the system, where irregularities and craft are celebrated; the hand that molds the unit can be seen in the material.



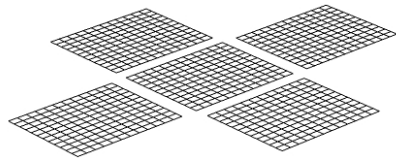


Jacques Herzog & Pierre de Meuron, designed the Dominus Winery in Yountville, California. The project was completed between 1996 and 1998. The 50,000 square foot structure's outer shell is constructed using gabions. Gabions means "big cage" in Italian and is literally a cage, cylinder or box filled with rocks and sometimes other materials in civil engineering, road building and landscaping. It is often used along riversides to control erosion. Local basalt rocks are used in varying sizes and colors from a local quarry to fill the gabions. The organization of the size of rocks piled on top of each other allows for light to penetrate or not depending on the programmatic requirements. The architects chose this unorthodox system of construction for Dominus Winery to satisfy three main design concerns. First, it allowed for a more natural-looking building facade that is well integrated into the surrounding vineyards. Second, it successfully made use of the natural temperature changes in California, where full advantage of the night time coolness was paramount in the design. And lastly, economically more efficient, the gabion system eliminates all mechanical systems and thus is less costly. Not only does this type of construction embrace the natural environment, but it also recalls a more human type of construction that is more

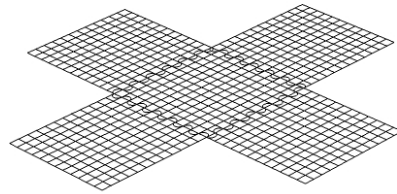
intuitive, allowing those who encounter the system a reveal to its process of construction. The architects describe their use of the gabions "as a kind of stone wickerwork with varying degrees of transparency, more like skin than like traditional masonry" (Choi, Le, Lee).

The desire for transparency between spaces and revealing processes of construction, design, and wine wherever possible in this thesis project, the gabion system of construction is studied to inform design strategies for the wine storage walls that will be used throughout the various programmatic spaces of the project. Instead rocks to transmit or block light, wine bottles will be housed within the wall. This will also allow for the most efficient use of space, so instead of designing storage space for the bottles, they themselves will become integrated into the construction of the walls. The walls will both separate and integrate the spaces, acting as semi-transparent partitions. The rhythm of hundreds of bottles within a wall will reinforce the design intent to reveal process. The bottles are not only vessels for the product but also begin to speak the same language as the hum of the machines; a pulsating rhythm that is ever-changing in accordance to the process and people that are producing the wine.

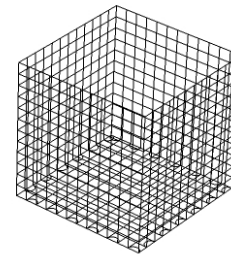
Step 1.



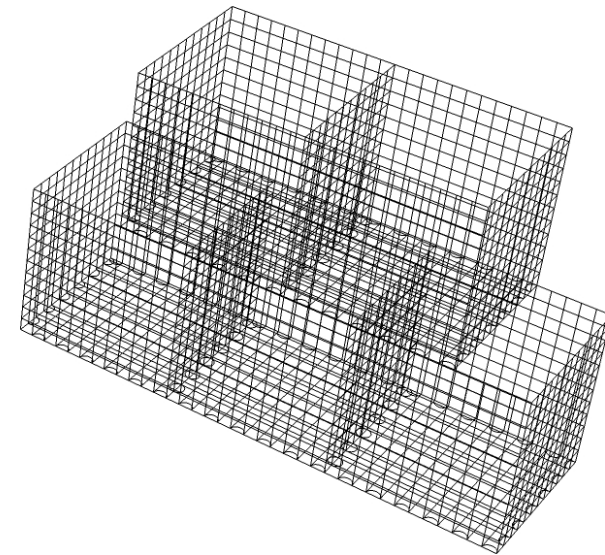
Step 2.



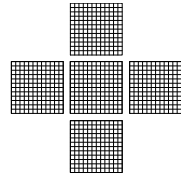
Step 3



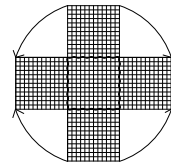
Step 4



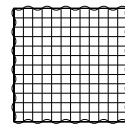




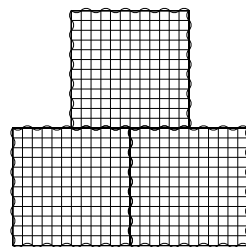
**STEP 1**  
Concrete mesh is cut into 5 sections (a sixth if a "lid" is needed), 1' x 1'



**STEP 2**  
Galvanized wire is looped through the concrete mesh to secure the bottom sections together. A simple over-under technique is generally used.



**STEP 3** The vertical sides of the gabion are secured together with the same loop technique to complete the cage-like device.



**STEP 4**  
When stacking gabions to make a wall, a stagger is implemented to distribute the load.



36.1

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{ PART THREE





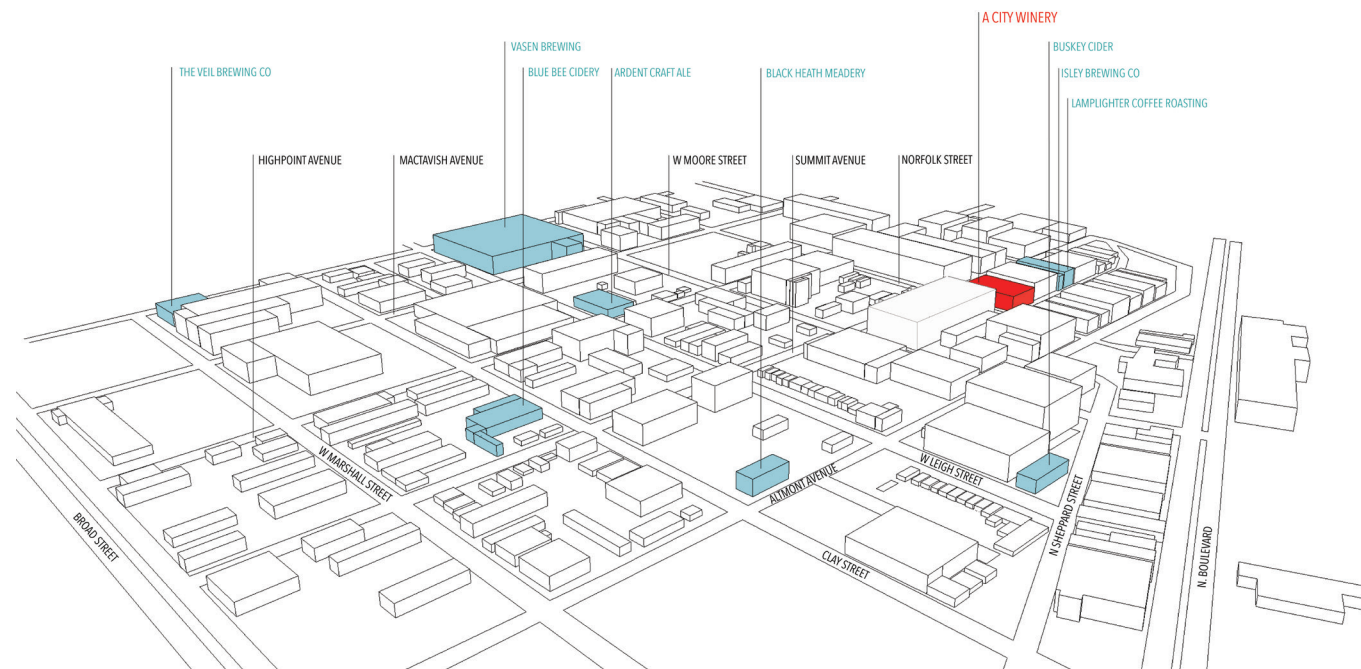
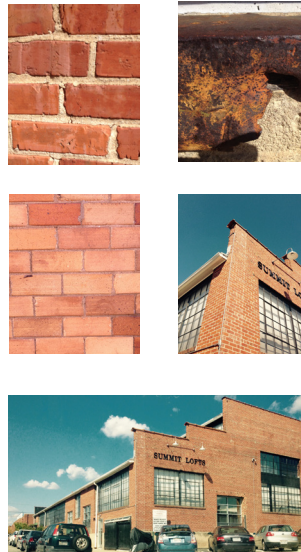
SITE ANALYSIS

# { CONTEXT



● Richmond

39



#### RICHMOND, VIRGINIA

Richmond, Virginia is less than two hours South of Northern Virginia and less than an hour from Charlottesville, the two regions of the state that produce the most wine. Richmond and its surrounding counties technically reside in two of Virginia's AVAs, or American Viticultural Regions, the Monticello AVA, which encapsulates Charlottesville, and the George Washington Birthplace AVA, in close proximity to the central shoreline. Northern Virginia falls into the Middleburg AVA. As the capitol of a state that ranks in the top 5 producers of wine in the country, and is in close proximity to the state's major wineries, this thesis project logically found its location in Richmond.

#### SCOTT'S ADDITION

The neighborhood of Scott's Addition is undergoing incredible transformation. With the resurgence in craft production and services, most notably craft beer and cider in the neighborhood, it is appropriate to weave a winery into the fabric of this craft-oriented neighborhood.

Scott's Addition, named for General Winfield Scott (1786-1866), was part of the 600 acre Hermitage estate that Scott inherited from his father-in-law, Colonel John Mayo. The earliest subdivision plan for Scott's Addition was made in

November 1890. Known as Scott's Plan, the subdivision was for residential development between West Broad Street on the South, the R.F. & P. Railroad tracks on the North, Altamont Avenue on the East, and Highpoint Avenue on the West. In the early 1900s modest dwellings and businesses were constructed in the area. From the 1930s to the 1950s, large industrial plants, commercial buildings, and warehouses were built amongst the existing dwellings or replacing them. Large industrial plants and commercial structures are the dominant building type in the area today. The Scott's Addition Historic District is one of the larger industrial and commercial districts in the City of Richmond (Residential Neighborhoods, Subdivisions and Historic Districts).

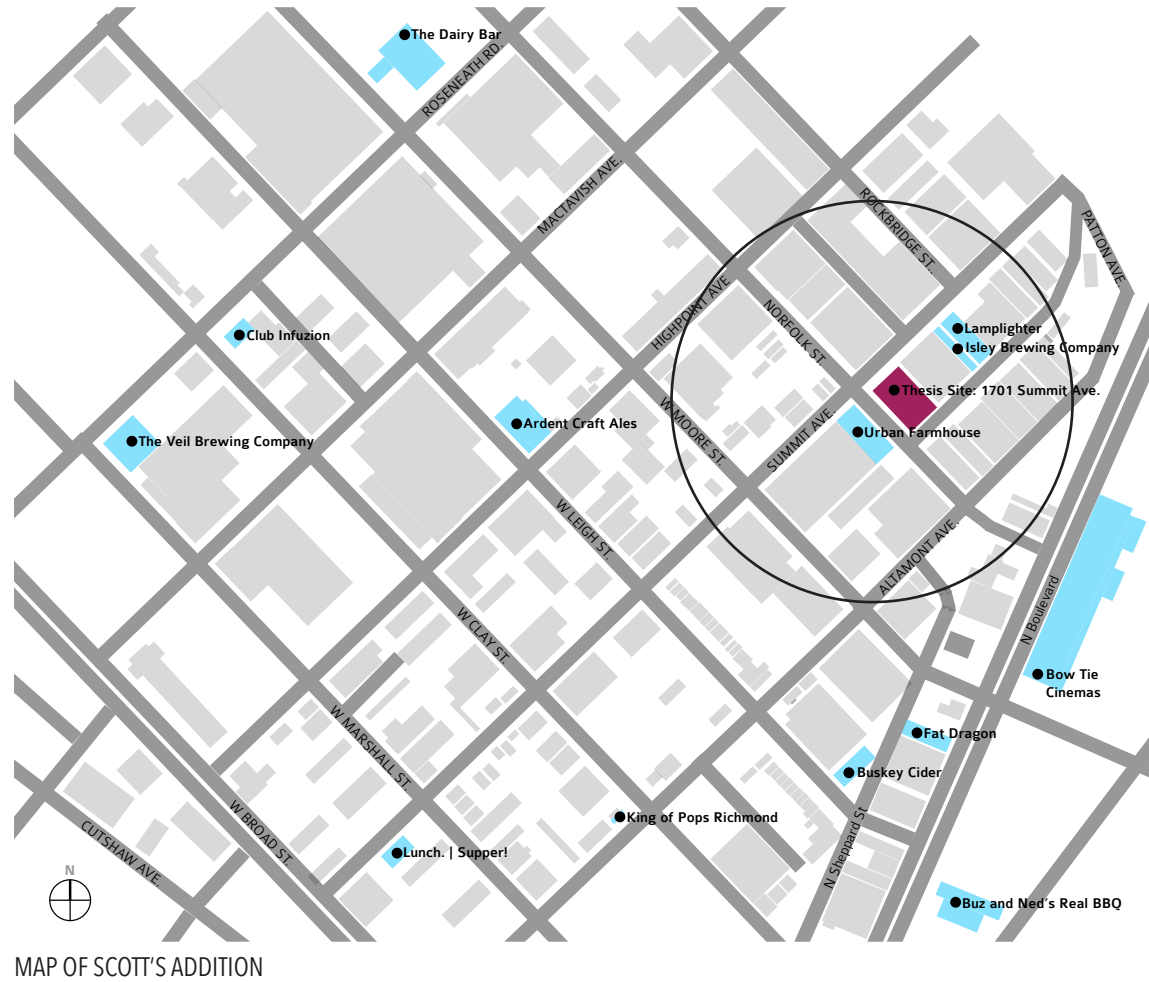
#### BUILDING INFORMATION

1701 Summit Ave is located on the corner of Summit Avenue and Norfolk Street. Built in 1920, possibly as a warehouse associated with a ginger ale bottling company, it is constructed with brick and mortar, steel I columns, and wood. Consisting of one main floor, a mezzanine and a basement, 1701 Summit Avenue occupies 12,264 square feet. As such, it provides an open floor plan which lends itself to the multi-use program And as an industrial warehouse, it shares a history of making with A City Winery.



{ SITE PLAN

41



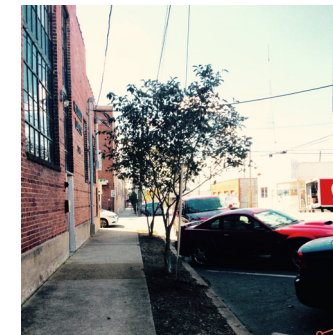
NORTH EAST VIEW OF SUMMIT



EAST VIEW OF 1701 SUMMIT



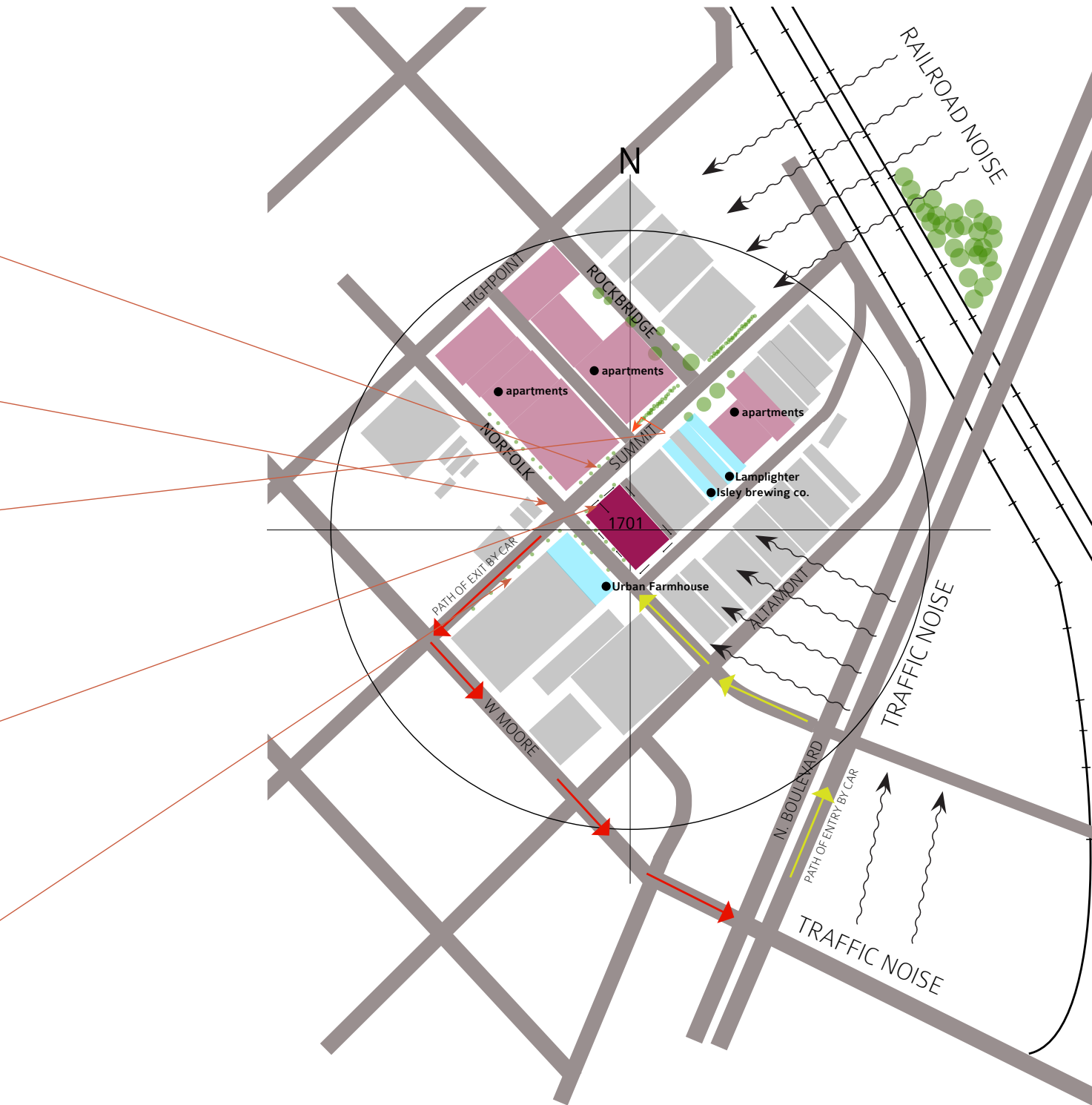
SOUTH VIEW OF 1707 + 1701



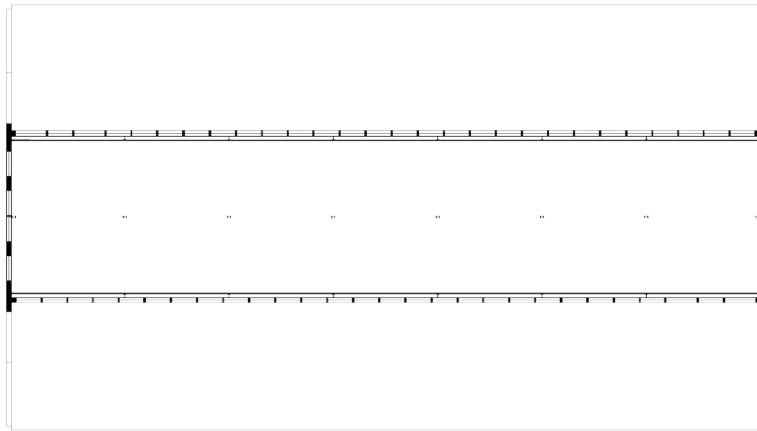
VIEW OF 1701 FRONT ENTRANCE



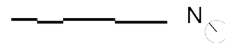
VIEW OF URBAN FARMHOUSE





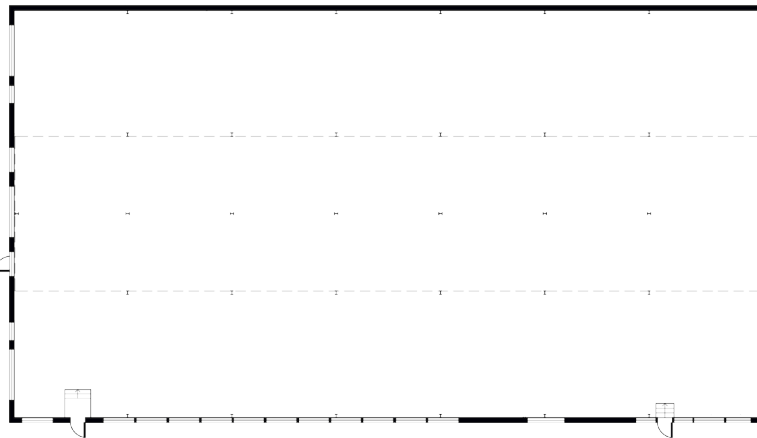


MEZZANINE FLOOR PLAN

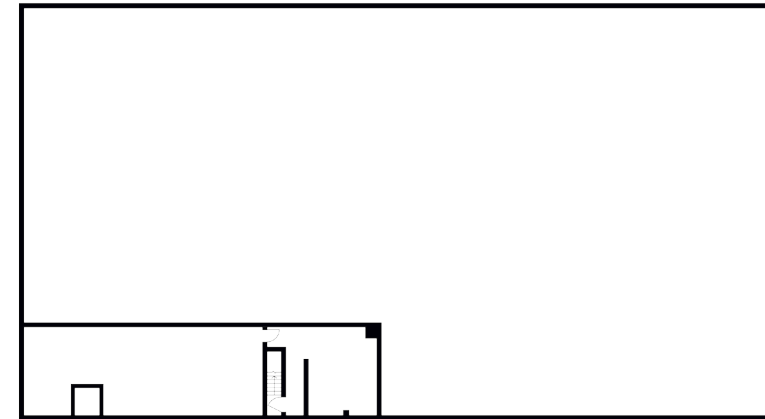
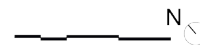


#### BUILDING DETAILS

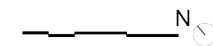
location: 1701 SUMMIT AVE.  
 neighborhood: SCOTT'S ADDITION  
 city/state: Richmond, Virginia  
 construction type: type III  
 zoning: M-1 LIGHT INDUSTRIAL  
 parcel square footage: 12,264  
 acreage: .2816  
 built in: 1920  
 stories: 2  
 levels: 3



FIRST FLOOR PLAN

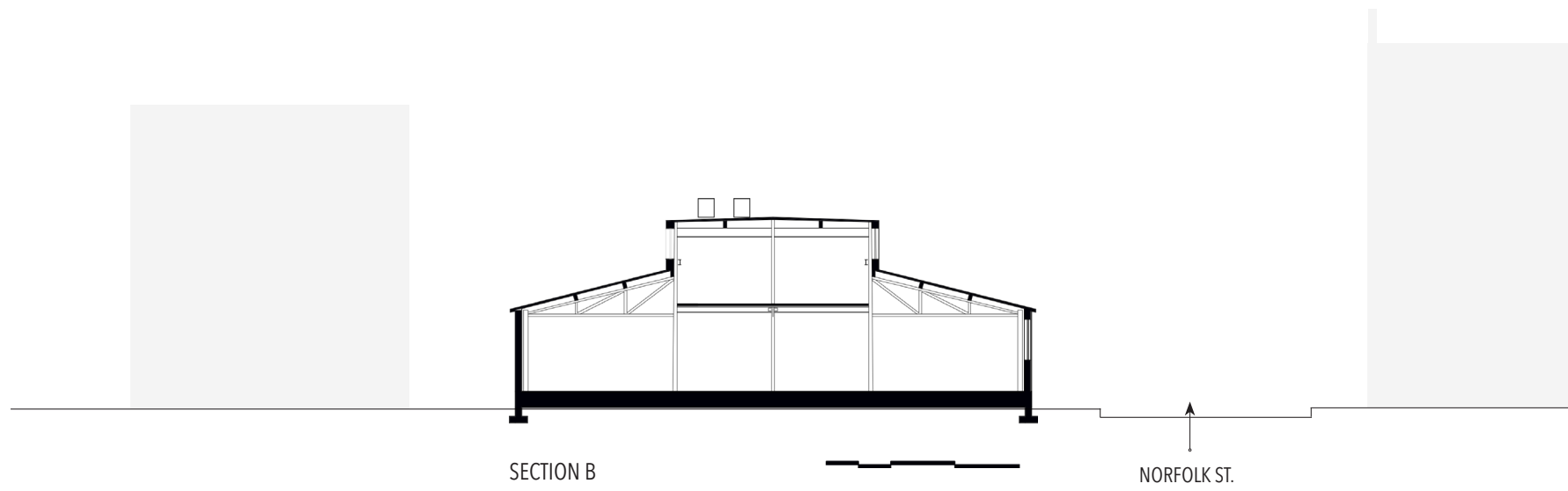
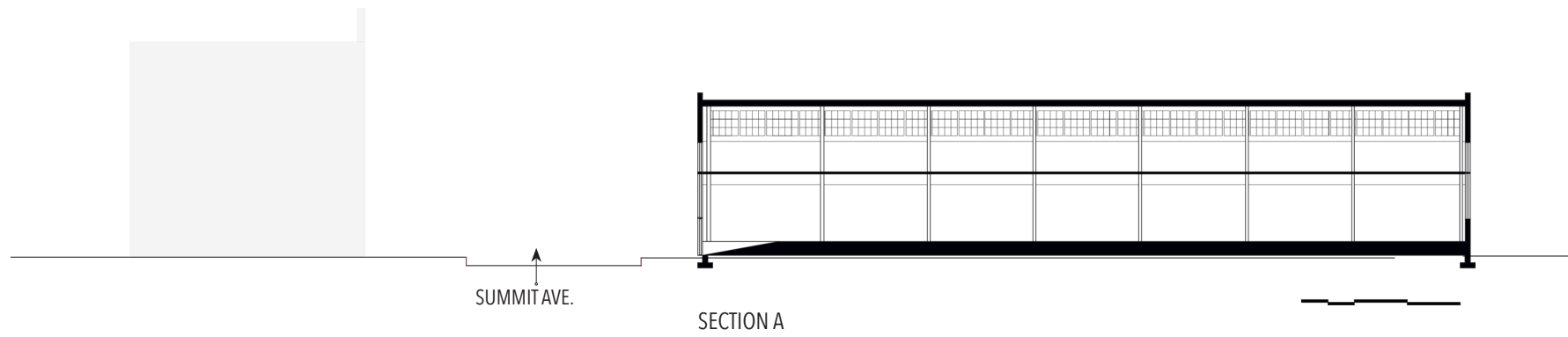


BASEMENT FLOOR PLAN



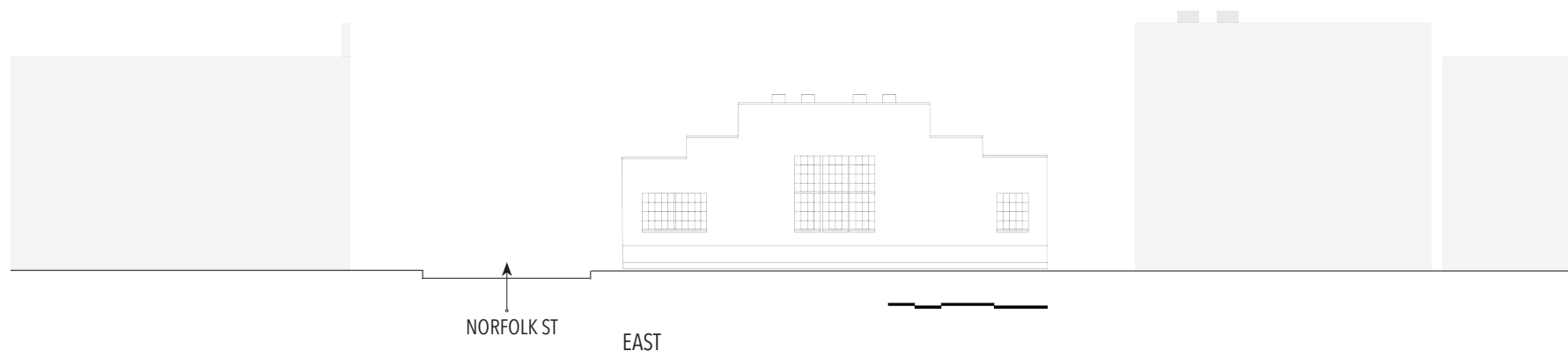


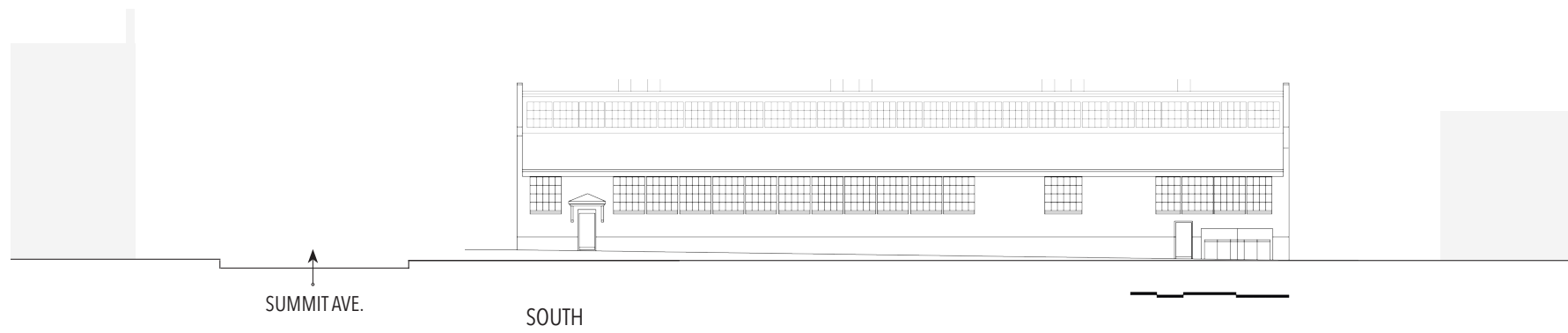




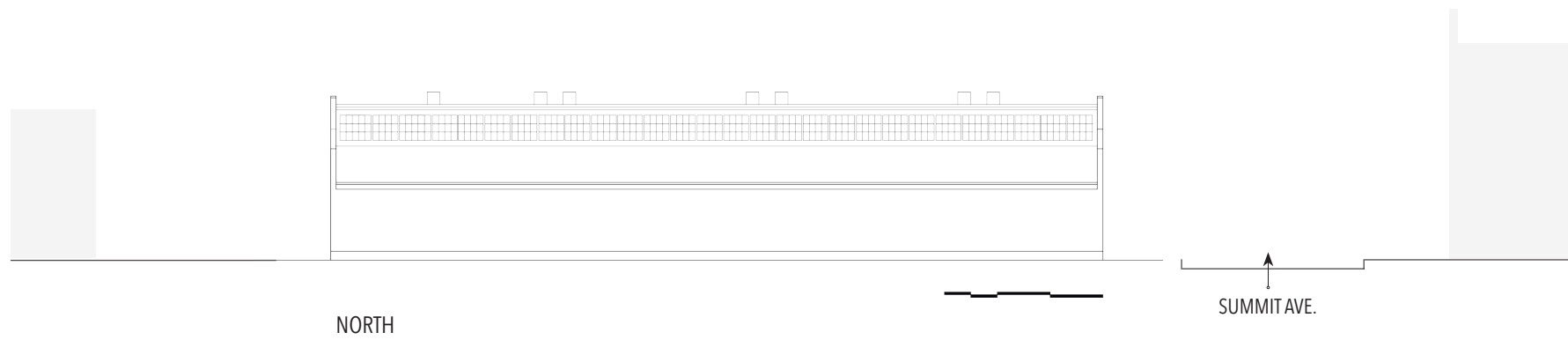


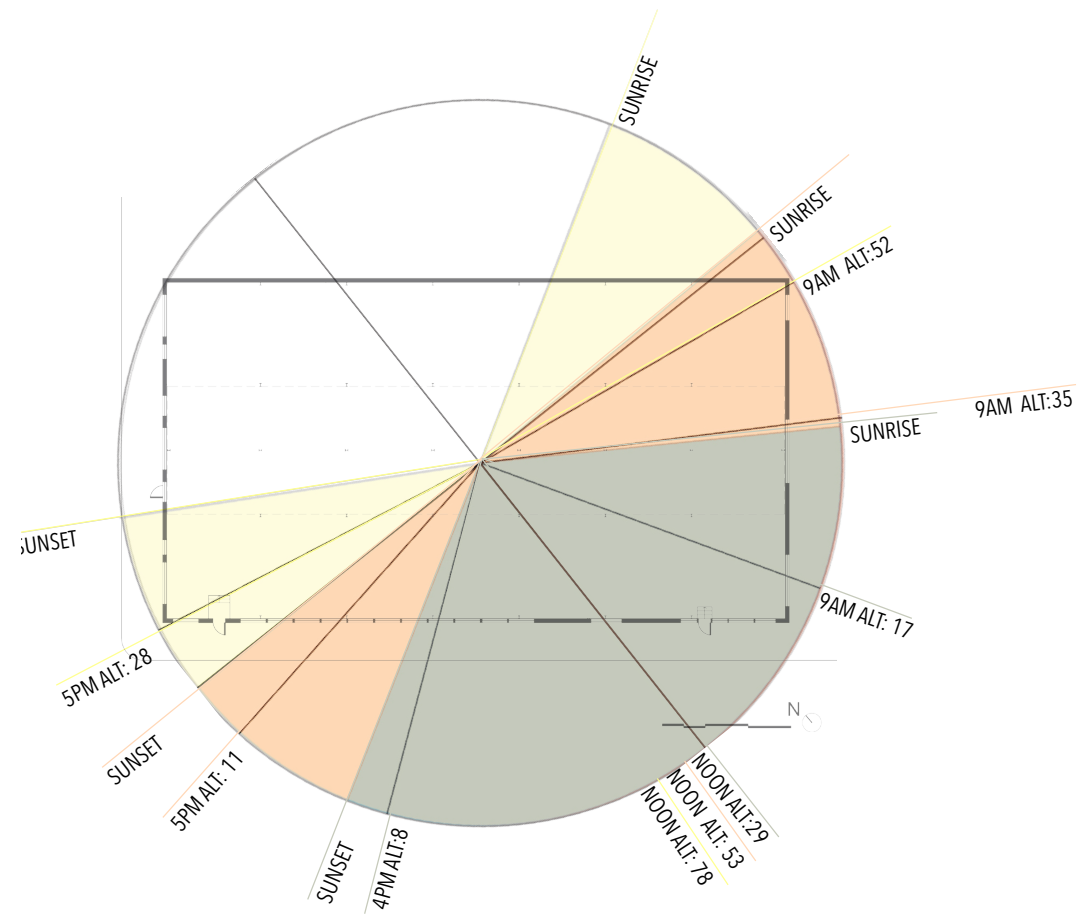
47

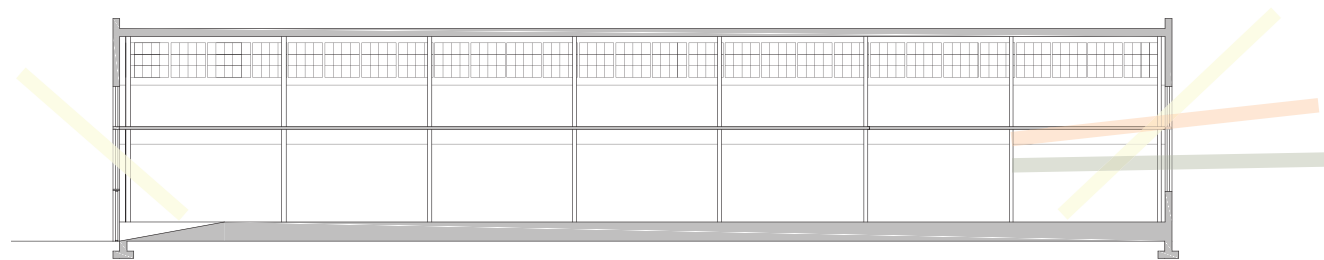


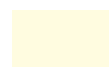


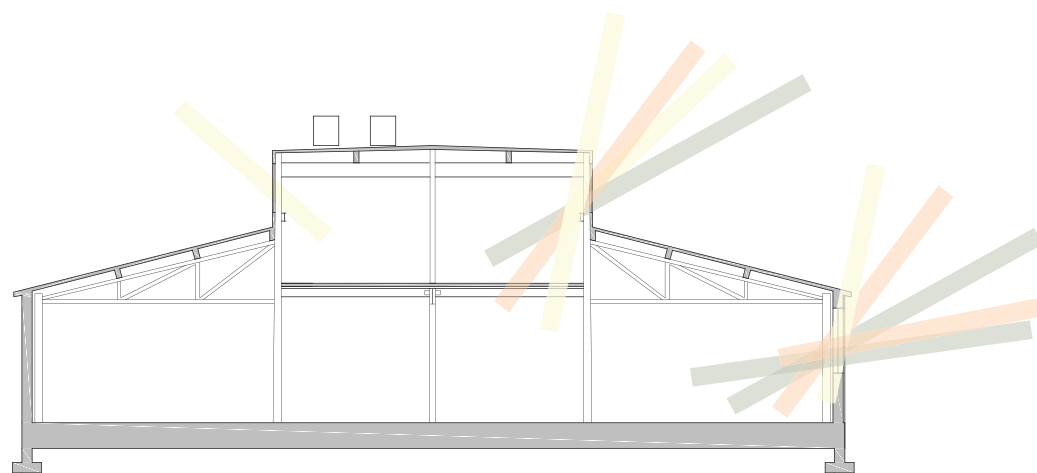
48







 JUNE 21  
 MARCH 21  
 DECEMBER 21









INITIAL PROGRAMMING



OENOPHILE  
Local and visiting connoisseurs  
of wine

ASPIRING OENOPHILE  
Individuals interested in  
expanding their knowledge of  
wine and viniculture

WINEMAKERS  
Professional grape growers  
and winemakers that come to  
the facility to collaborate over  
methods of growing grapes  
and making wine.

GENERAL VISITOR  
People of all ages interested in  
learning more about wine and  
winemaking

SALES REPRESENTATIVE  
Staff that oversees  
sales, ordering and organization  
within the wine shop

ADMINISTRATIVE STAFF  
Directors and staff who oversee  
the logistics of the facility and  
reception area.

TASTING ROOM STAFF  
Bartenders, tasting room  
associates and sommeliers  
that oversee the logistics and  
operation of the tasting room

RESTAURANT STAFF  
Waiters, waitresses,  
bartenders, kitchen staff and  
chefs that oversee the logistics  
of the small plate restaurant.

## { INITIAL PROGRAM

## RECEPTION

Liminal, welcoming space to create interest, aid in the orientation of the occupants and facilitate entry into the spaces beyond

OCCUPANCY TYPE: A-3

MAX. OCCUPANCY: 30

AREA: 450

## ADMINISTRATIVE OFFICES (4)

Place for executive staff members to conduct research and development for the center and conduct private meetings

OCCUPANCY TYPE: B

MAX. OCCUPANCY: 3 EACH

AREA: 180 EACH

TOTAL: AREA: 720

## COAT ROOM

Temporary storage of coats and small personal items for visitors; attendant present during hours of operation

OCCUPANCY TYPE: S-1

MAX. OCCUPANCY: 3

AREA: 120

## CLASSROOM(S)/ AUDITORIUM

Flexible education space to accommodate two small classes or one large class and auditorium. Will provide a space for lectures, presentations, small parties and the like.

OCCUPANCY TYPE: E/ A-3

MAX. OCCUPANCY: 40

AREA: 800

## STAFF ROOM

Space for staff to take breaks, eat lunch, store personal items

OCCUPANCY TYPE: A-

OCCUPANCY: 10

AREA: 200

## LABORATORY

Space to further investigate and experiment with the actual making of wine at a small scale

OCCUPANCY TYPE: B

MAX. OCCUPANCY: 20

AREA: 1,200

INTERACTIVE EXHIBITION  
Hands-on sensory exhibition where visitors experience the process of Virginia winemaking  
OCCUPANCY TYPE: A-3  
MAX. OCCUPANCY: 100  
AREA: 3,000

ASTING ROOM  
Place for tasting various Virginia wines in a multi sensory experience with experts on teaching the tasting of wine  
OCCUPANCY TYPE: A-2  
OCCUPANCY: 30  
AREA: 500

RESTROOMS  
ADA accessible restroom equipped with the appropriate fixtures to accommodate visitors and staff  
OCCUPANCY TYPE: A-2

WINE SHOP  
Store-front retail environment hosting a variety of Virginia wines and related products for sale  
OCCUPANCY TYPE: M  
OCCUPANCY: 60  
AREA: 720

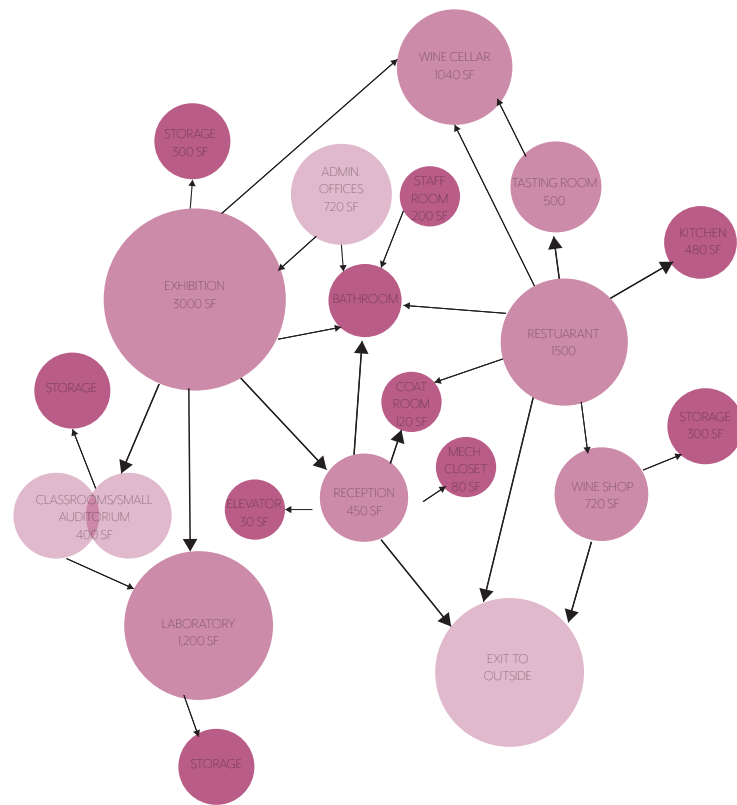
RESTAURANT  
Restaurant geared towards the pairing of various wine types and certain foods to enhance the eating and drinking experience  
OCCUPANCY TYPE: A-2  
OCCUPANCY: 70  
AREA: 1,500

ELEVATOR  
ADA accessible for vertical circulation to cellar and mezzanine  
OCCUPANCY TYPE: A-2  
OCCUPANCY: 5  
AREA: 30

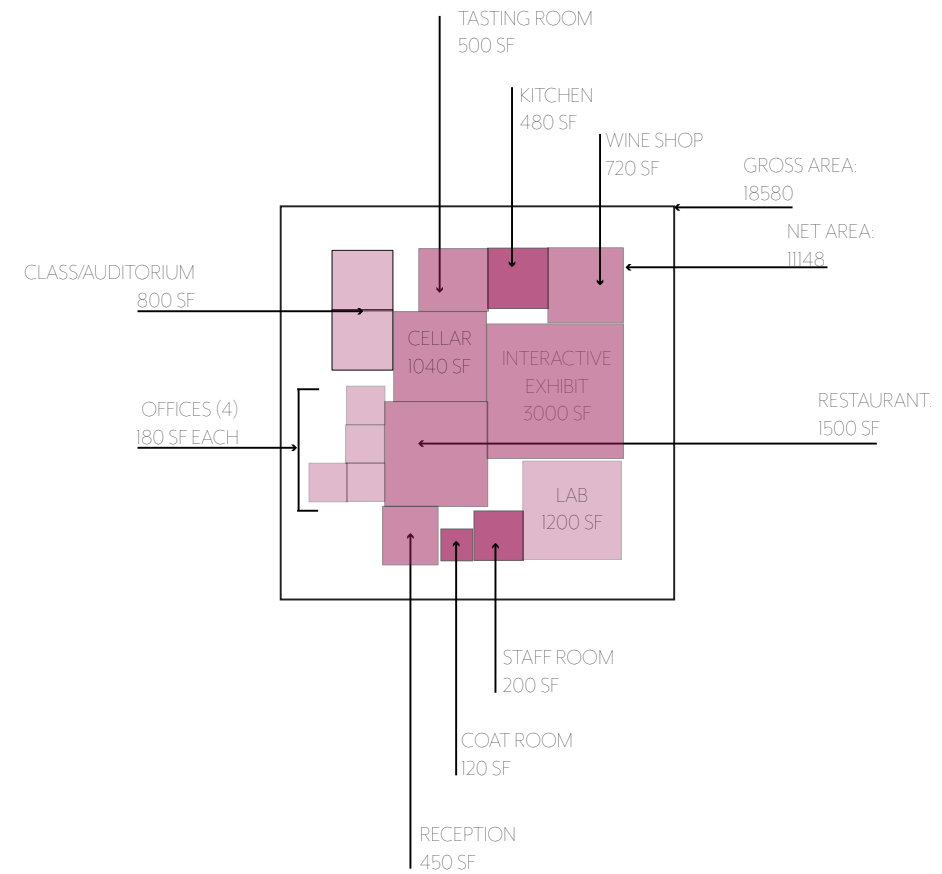
WINE CELLAR  
Storage of wine in bottles and barrels  
OCCUPANCY TYPE: S-1  
OCCUPANCY: 20  
AREA: 1,040

KITCHEN  
Commercial kitchen with dry storage and walk- refrigerator that prepares locally sourced foods to pair with various Virginia wines  
OCCUPANCY TYPE: A-2  
OCCUPANCY: 4  
AREA: 480

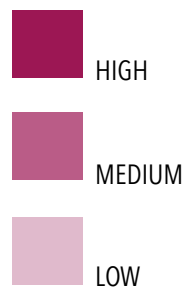
MECHANICAL CLOSET  
Controls for electric/mechanical/data  
OCCUPANCY TYPE: S-1  
OCCUPANCY: 1  
AREA: 80



## PROXIMITY



GRAPHIC PROGRAM



|                        | PLUMBING | ACCESSIBILITY | ACOUSTICAL PRIVACY | VISUAL PRIVACY | FF+E                                                                                 |  |
|------------------------|----------|---------------|--------------------|----------------|--------------------------------------------------------------------------------------|--|
| RECEPTION              | LOW      | HIGH          | MEDIUM             | LOW            | reception desk, chairs, couches, side tables, bookshelves                            |  |
| COAT ROOM              | LOW      | LOW           | MEDIUM             | HIGH           | desk, coat racks, hangers, cubbies                                                   |  |
| STAFF ROOM             | HIGH     | MEDIUM        | HIGH               | HIGH           | tables, chairs, counter, microwave, fridge                                           |  |
| INTERACTIVE EXHIBITION | HIGH     | HIGH          | MEDIUM             | MEDIUM         | crusher-destemmer, press, fermentation vessels, filters, pumps                       |  |
| CLASSROOMS/AUDITORIUM  | LOW      | HIGH          | HIGH               | MEDIUM         | desks, chairs, projector, podium                                                     |  |
| LABORATORY             | HIGH     | HIGH          | HIGH               | LOW            | counter style desks, sinks, chalkboard, stools                                       |  |
| WINE SHOP              | MEDIUM   | HIGH          | MEDIUM             | LOW            | display shelves, check out counter                                                   |  |
| WINE CELLAR            | MEDIUM   | LOW           | MEDIUM             | HIGH           | shelving for wine barrels and bottles                                                |  |
| RESTAURANT             | HIGH     | HIGH          | HIGH               | LOW            | tables, chairs, barstools, bar, hostess stand                                        |  |
| KITCHEN                | HIGH     | MEDIUM        | HIGH               | HIGH           | commercial range, ovens, walk-in refrigerator, dry storage, prep counters            |  |
| ADMINISTRATIVE OFFICES | MEDIUM   | MEDIUM        | HIGH               | MEDIUM         | desk, task chair, two guest chairs, sideboard                                        |  |
| TASTING ROOM           | HIGH     | HIGH          | HIGH               | LOW            | full service bar with sink and fridge, barstools, small and large tables with chairs |  |

ADJACENCY MATRIX







FINALIZED PROGRAMMING

60.1



#### STAFF

Sales representatives (shop), administrative staff (reception and office), tasting room staff, and restaurant staff (waiters, waitresses, bartenders, kitchen staff and chefs) that oversee the daily operations of the facility in their respective spaces

#### OENOPHILE

Local and visiting connoisseurs of wine who want to contribute their knowledge and continue to receive it.

#### ASPIRING OENOPHILE

Individuals interested in expanding their knowledge of wine and viniculture

#### GENERAL VISITOR

Interested individuals who come to the winery for a tasting, to shop or to eat in the restaurant and come to learn about the other activities it has to offer through their visitation.

#### WINEMAKERS

Professional grape growers and winemakers that come to the facility to collaborate over methods of growing grapes and making wine.

#### HOUSE WINEMAKERS

In house winemakers that oversee the production facility and the process of winemaking that occurs on the premise. Work in the laboratory with other experts for research and development.

### CODE ANALYSIS

#### GROSS AREA

level one: 11,680 SF  
mezzanine: 4,300 SF  
basement: 2600 SF  
TOTAL: 18,580 SF

#### NET AREA (pre-demo)

level one: 7,008 SF  
mezzanine: 2,580 SF  
basement: 1560 SF  
TOTAL: 11,148 SF

#### PROGRAM AREA

level one: 7,160 SF  
mezzanine: 2,152 SF  
cellar: 2,832  
TOTAL: 12,144

#### OCCUPANT LOAD

TOTAL: 400\*

\*assuming 50% female, 50% male,  
occupant load used to determine  
necessary plumbing fixtures

#### PLUMBING REQUIREMENTS

##### TOILETS

female: 1 per 65 (IBC)  
200 females: 3 fixtures  
male: 1 per 125 (IBC)  
200 males: 2 fixtures

##### WATER FOUNTAINS

1 per 100 (IBC)  
400 occupants: 4 fountains

#### RECEPTION

A liminal, welcoming space where visitors to A City Winery are oriented to the various activities and services available. Daily tours of the wine production facility and laboratory as well as classes where one actively participates in winemaking over the course of a few months are two key components.

OCCUPANCY TYPE: A-3

MAX. OCCUPANCY: 60

AREA: 900

#### TASTING ROOM

The tasting room provides a space for patrons to learn about and experience several varieties of Virginia wine. The tasting room is where patrons are guided through the sensory qualities of the wine in general – primarily, color, smell, and taste. The order in which wines are tasted is from the lightest white to the darkest red. Here, discussions will ensue on the flavors found within the wine, giving the patrons a chance to inform the staff on what they taste instead of having the staff dictate what they will taste. This brings another level of research to the facility, where the patrons' experience of the wine is used to reflect on the flavors of the wine from the winemaker's perspective.

OCCUPANCY TYPE: A-2

MAX OCCUPANCY: 44

AREA: 666

#### WINE SHOP

The wine shop provides patrons with an extensive selection of Virginia wines from vineyards statewide as well as wines produced in house. The shop has its own point of entry from the outside, making it readily accessible for patrons that want to directly buy wine to take home. A glass wall divides the shop and the bottling facility, creating a visual connection between these two points in the wine production process – bottling/aging and distribution.

OCCUPANCY TYPE: M

MAX OCCUPANCY: 25

AREA: 900

#### RESTAURANT

The restaurant brings the wine tasting experience to another level, where the pairing of specific wines and foods is explored. This incites another instance of collaboration and experimentation between the winemakers and chefs, who work together to create new sensations and flavors through the combination of food and drink. The restaurant is located on the mezzanine level, which provides views below, creating a sensory connection between the restaurant and the two first floor areas of production- fermentation and bottling.

OCCUPANCY TYPE: A-2

MAX OCCUPANCY: 56

AREA: 840

PRODUCTION FACILITY

The production facility encompasses the majority of the north and south wings of the first floor, visually connected to surrounding spaces. A garage door opens up into the receiving area, where Virginia grapes are shipped to the facility. Here, grapes are crushed/destemmed and pressed (if white; pressed later if red), and sent into must storage tanks or straight into fermentation tanks, located along the north side of the building. The area that houses the fermentation tanks is dropped two feet from the first floor to express the flow of the process, known in the business as gravity flow production. The wine then descends into the cellar for aging and back up to the first floor for bottling.

OCCUPANCY TYPE: S-2  
MAX. OCCUPANCY: 28  
AREA: 3,449

WINE CELLAR

The cellar is where wine goes to age on average one to two years. The space needed to be in a dark, cool place in the building so wine does not spoil, so the basement level was redesigned to provide more space for barrels and circulation.

OCCUPANCY TYPE: S-2  
OCCUPANCY: 23  
AREA: 2,832

LABORATORY

The laboratory is centrally located between the various production facilities. Here, winemakers and analysts embark on research and development for increased quality of Virginia wine. Anything from analysis of the wine itself to the soil from which the grapes came happens here.

OCCUPANCY TYPE: B  
MAX. OCCUPANCY: 20  
AREA: 408

MULTI-PURPOSE SPACE

Flexible space to accommodate classes, lectures, presentations, parties, and collaborative meetings.

OCCUPANCY TYPE: E/ A-3  
MAX. OCCUPANCY: 40  
AREA: 1032

OFFICE

Place for 6 employees of the winery-the winemakers, director, assistant director, and accountant conduct the "behind the scenes" logistics for the facility.

OCCUPANCY TYPE: B  
MAX. OCCUPANCY: 8  
TOTAL: AREA: 837

KITCHEN

Commercial kitchen with dry storage and walk- refrigerator that prepares locally sourced foods to pair with various Virginia wines.

OCCUPANCY TYPE: A-2  
OCCUPANCY: 4  
AREA: 280

ELEVATORS

ADA accessible for vertical circulation to cellar and mezzanine. Freight elevator that carries forklift and barrels from fermentation down to the cellar

FREIGHT AREA: 66  
CIRCULAR AREA: 28.26  
TOTAL: 94.26

RESTROOMS

ADA accessible restroom equipped with the appropriate fixtures to accommodate visitors and staff.

OCCUPANCY TYPE: A-2

MECHANICAL CLOSET

Controls for electric/mechanical/data

OCCUPANCY TYPE: S-1  
OCCUPANCY: 1  
AREA: 100



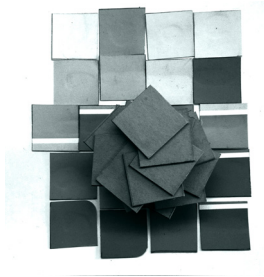




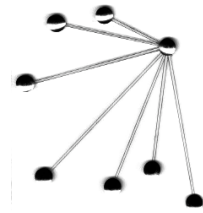
DESIGN PROCESS

Concept development began with a series of 30 inspirational two and three dimensional works, where wine was explored as a medium. This allowed for the generation of words that continued the concept exploration, giving rise to certain themes and ideas important to the project. These words were then represented in the form of collages and analyzed in terms of importance and substance.

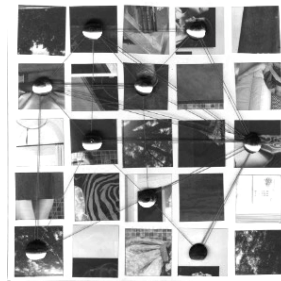
Commonalities between the ideas explored to the right suggest an importance of movement, interaction, experience and rhythm within the project. A notion of things coming together (intertwining or weaving) lead to PROCESS as concept. Not only is it the process of winemaking, but the revealing of this process through program, material, circulation, volume, views and orientation.



**RESILIENCE/GROWTH**  
bouncing back; spring  
back into shape after being  
compressed



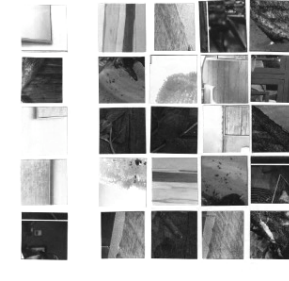
**NODE**  
point where many meet



**CONNECTION**  
site as urban, winery as rural



**PROCESS**  
the act of making wine  
should be reflected



**PROXIMITY**  
components of a whole- seen  
as one or seen as many;  
integration with separation



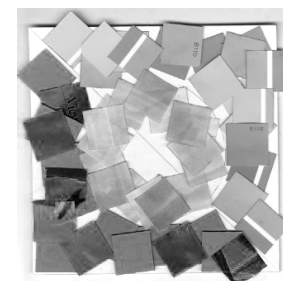
**CLUSTER**  
bring together, gather,  
congregate



**EQUILIBRIUM**  
internal and external worlds  
(wine and architecture)



**CONFLUENCE**  
intertwining of ideas; coming  
together



**RECIPROCITY**  
give + take; collaboration



**MEANDER**  
provoking exploration,  
movement, interaction

This lead to further investigation into the process of winemaking, as well as the two other most important components of the project: the building and the program. The question as to what the essence of each is to the project lead to the following answer:

THE BUILDING-- the column grid

THE PROGRAM-- the integration of production facility and hospitality spaces

THE MAKING OF WINE-- the vines and the environmental conditions

These again aligned with the previous notions of movement and weaving, and as such were further investigated through diagrams within the building.

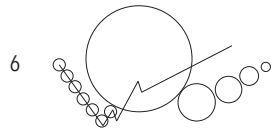
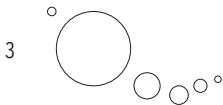
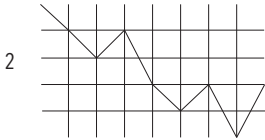




Conceptually, the project is inspired by the rhythmic nature of the grape vine and celebrates the undulating and fluid process of winemaking. An in depth analysis of winemaking and the steps the grapes undergo to become wine reveal a process that ebbs and flows, intertwining creativity and pragmatics, art and science, man and nature. The expression of these dichotomies lead to important drivers of the project such as expansion and contraction, high contrast and meander, where the space is designed to provoke sensory experience and exploration through circulation, volume and materiality. Theres dichotomies were previously explored through case study analysis and were seen as important visual diagrams of concepts I hoped to achieve in the project.

The diagrams created through an analysis of Antinori Winery and Therme Vals to inform concept development and definition. Antinori Winery informed orientation of materials, form, lighting and layering throughout the design process. Therme Vals informed floor plan strategies as well as orientation of display walls in the shop and circulation. To incite visitor procession through the space, the use of partial views, various circulation paths that provide visual connections to important spaces in the facility and gaps within the walls all provide a sense of discovery and interaction. The creation of visual diagrams of ideas aid in the visualization of complex ideas and forms that need representation in the project.

PROCESS OF WINEMAKING



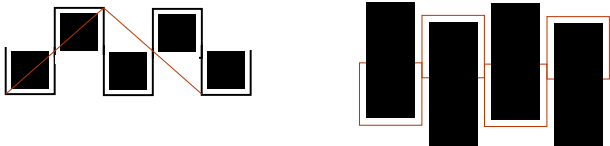
EXPANSION + CONTRACTION



DISCOVERY

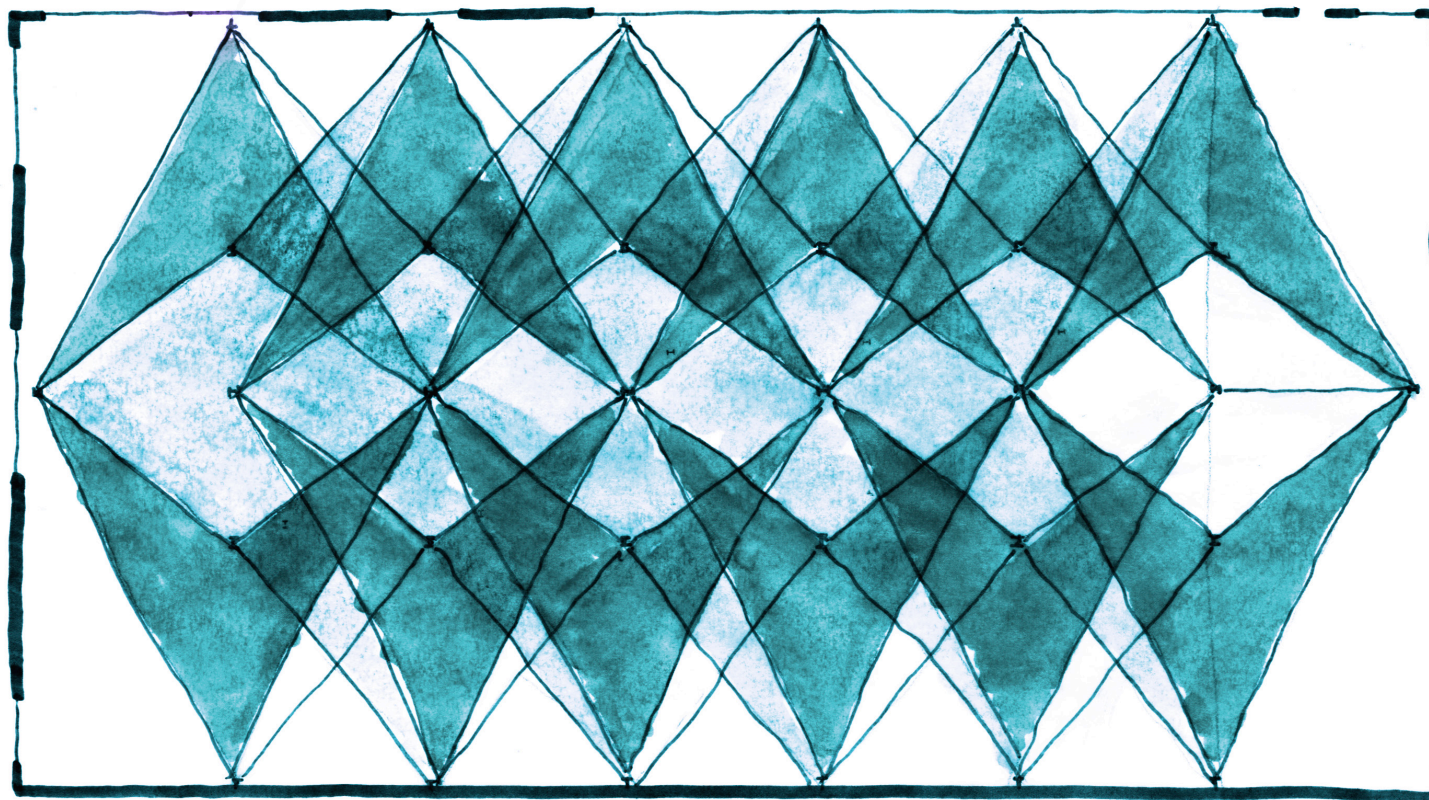


MEANDER

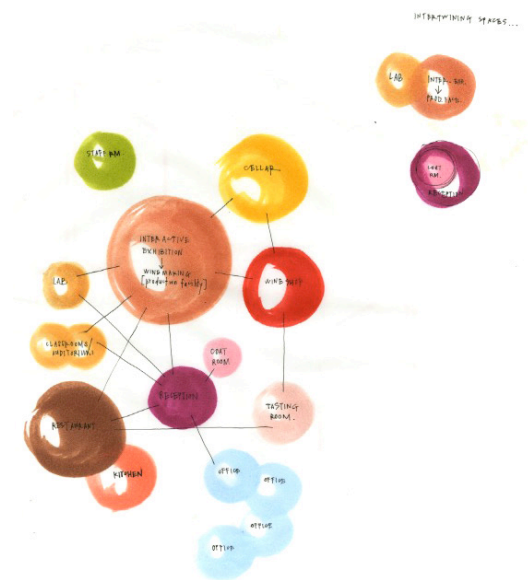




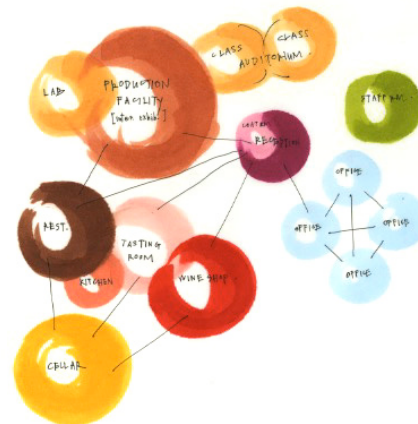




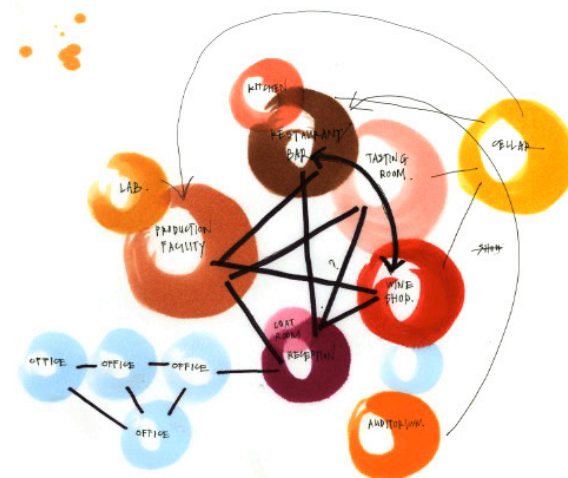
To begin space planning of A City Winery, the creation and analysis of bubble diagrams explored pragmatic concerns of proximity and adjacencies. Bubble diagrams continued the exploration of programmatic spaces, where many spaces evolved to become different spaces. Instead of a classroom/auditorium, a multi purpose space took form to accommodate both of these functions but allowed more flexibility in potential use. The multipurpose space evolved from a classroom/auditorium into a wine garden/music hall and then into a multipurpose space that allows for all these activities to take place. The need for a coat room subsided to make room for a larger reception area and through an exploration of other tasting room offices, four disparate offices evolved into an open office layout that accommodates six people. This further reinforced the ideas of integration and collaboration that took precedent in the project.



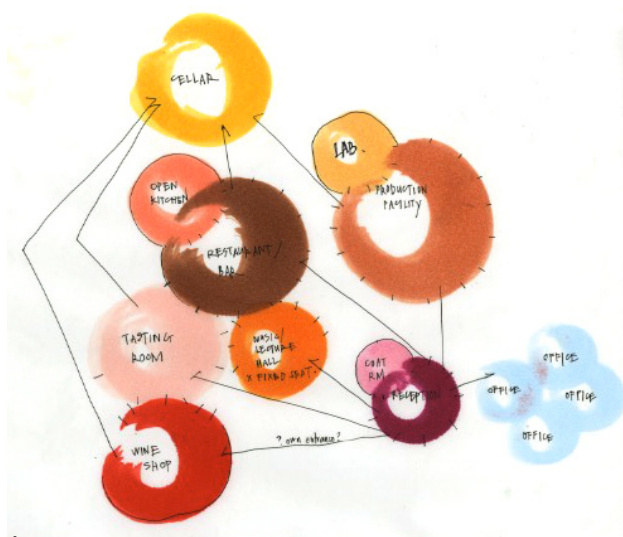
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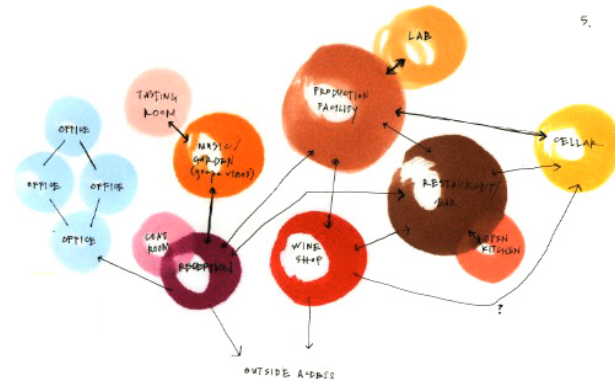
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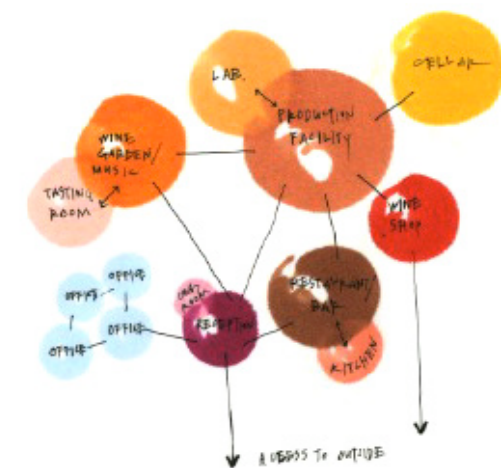
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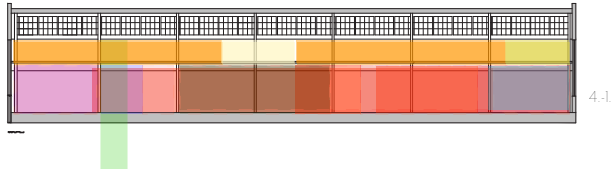
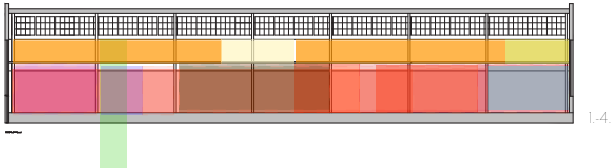
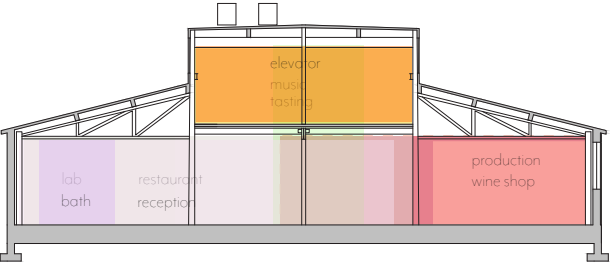
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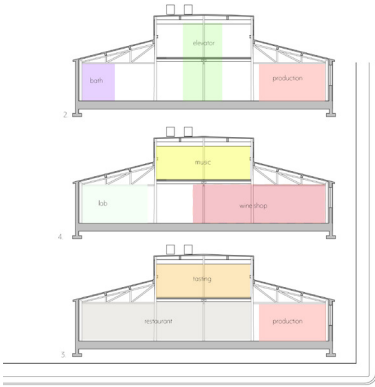
6.

The development of block diagrams aid in the further exploration of possible space planning and programs. Initial layering of sections provided the ability to explore the possibilities for integrating spaces. This lead to the use of glass as a means towards visual integration between the production facility and hospitality spaces. These diagrams also lead the hospitality spaces to find their location at the front of the building, closest to the entrance. This allows for easy access for the general visitor who is drawn to the winery for its tasting room, restaurant and shop. These spaces are visually connected to the production facility to incite interest and intuitive knowledge of the process of making wine. In the hospitality spaces, visitors will see views into the production oriented spaces and activities and be drawn to move through the facility to discover new areas and views. Block plans further developed the programmatic spaces into their final state.

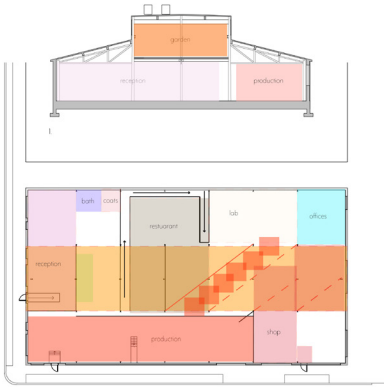
BLOCK PLAN ONE



LAYERED SECTIONS TO EXPLORE OVERLAP/INTEGRATION



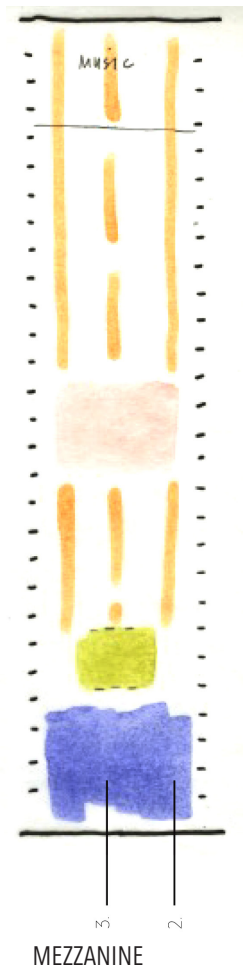
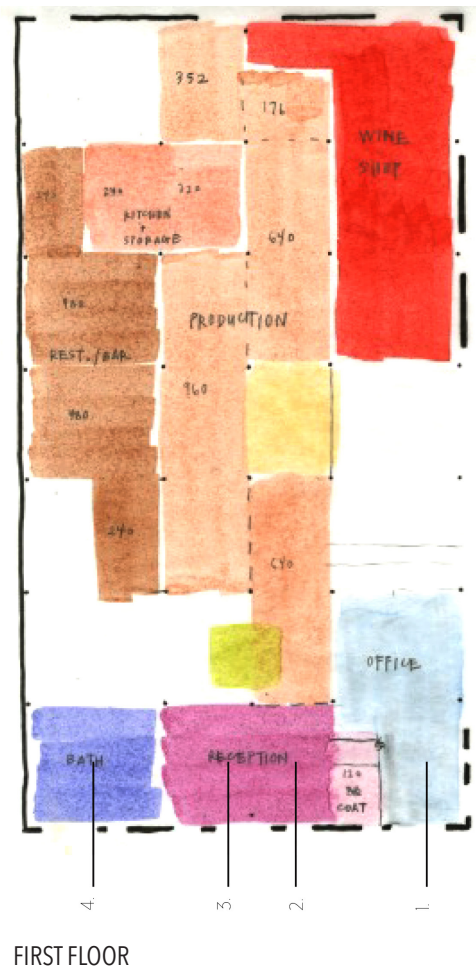
SECTIONS



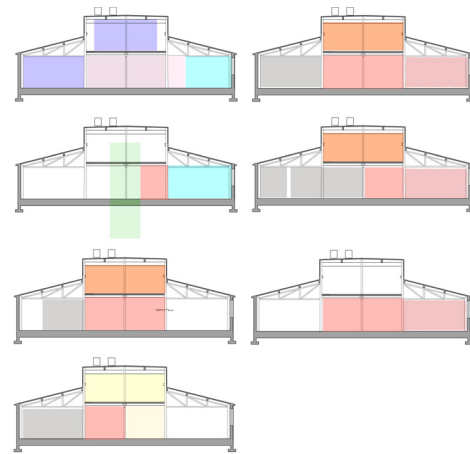
PLAN



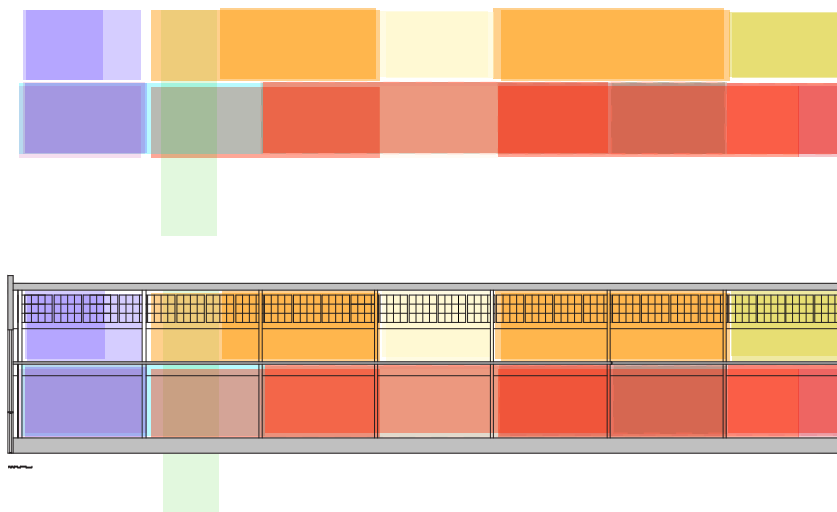
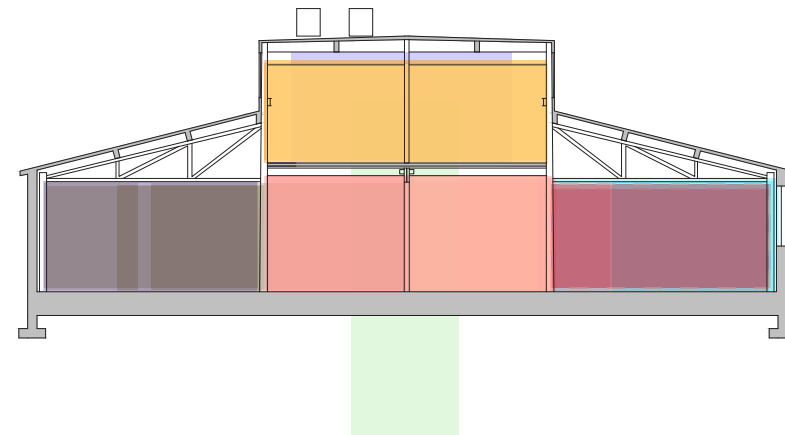
Space planning began with the production facility at the center. Through further investigation into the area, equipment and orientation of a wine production facility necessitated the production facility to shift off the central access and to the north side of the building, where larger circulation paths were possible, and views into the various areas of production can be seen. The attempts to keep the basement level as existing proved to create issues in circulation as well as square footage. This led the design to demo the basement level and create a new footprint.

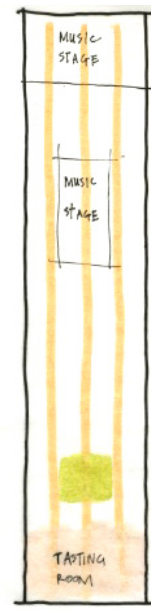




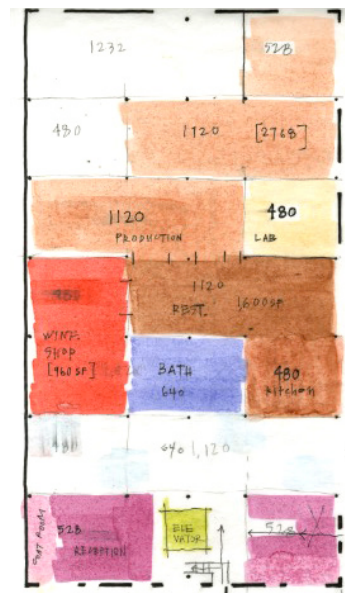


SECTIONS

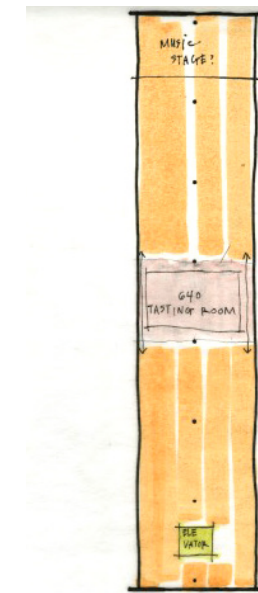




MEZZANINE

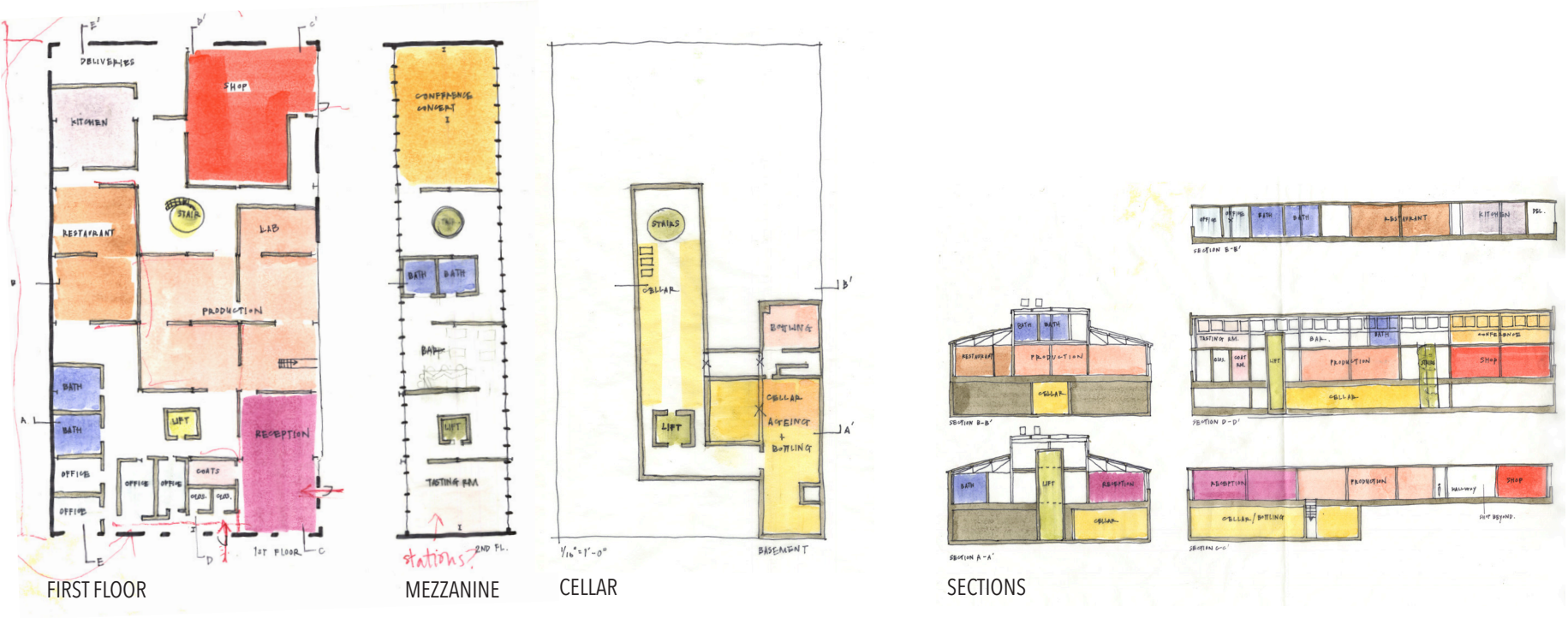


FIRST FLOOR

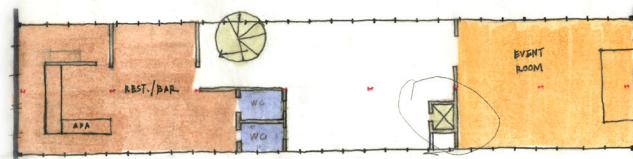


MEZZANINE

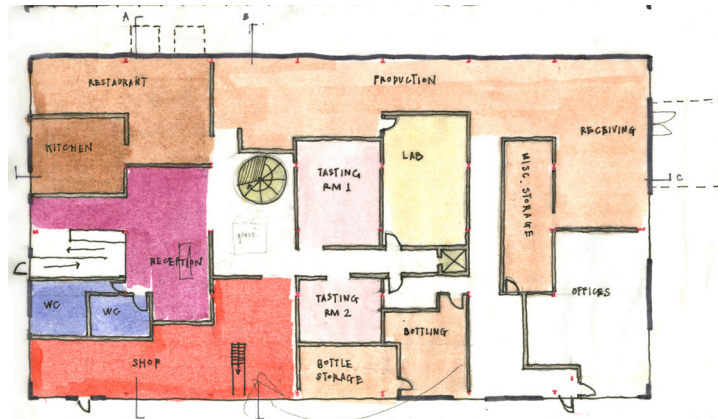
BLOCK PLAN FIVE



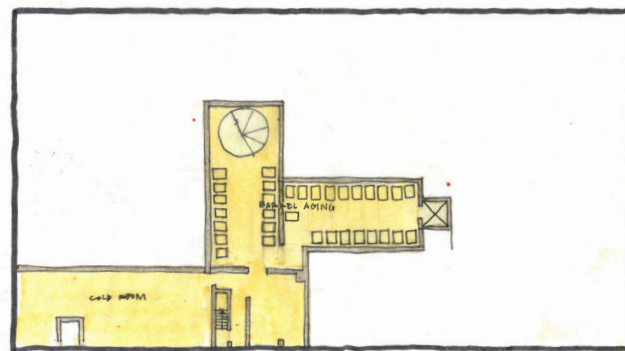
# BLOCK PLAN SIX



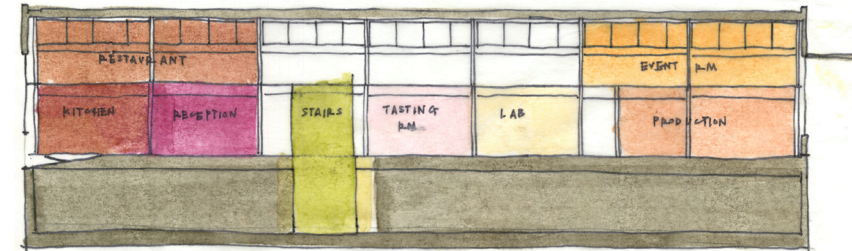
MEZZANINE



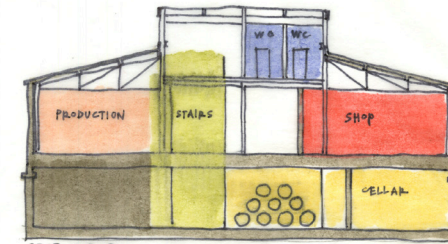
FIRST FLOOR



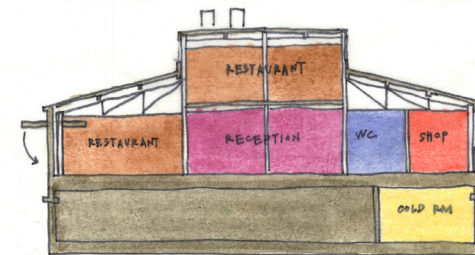
CELLAR



SECTION C-C



SECTION B-B

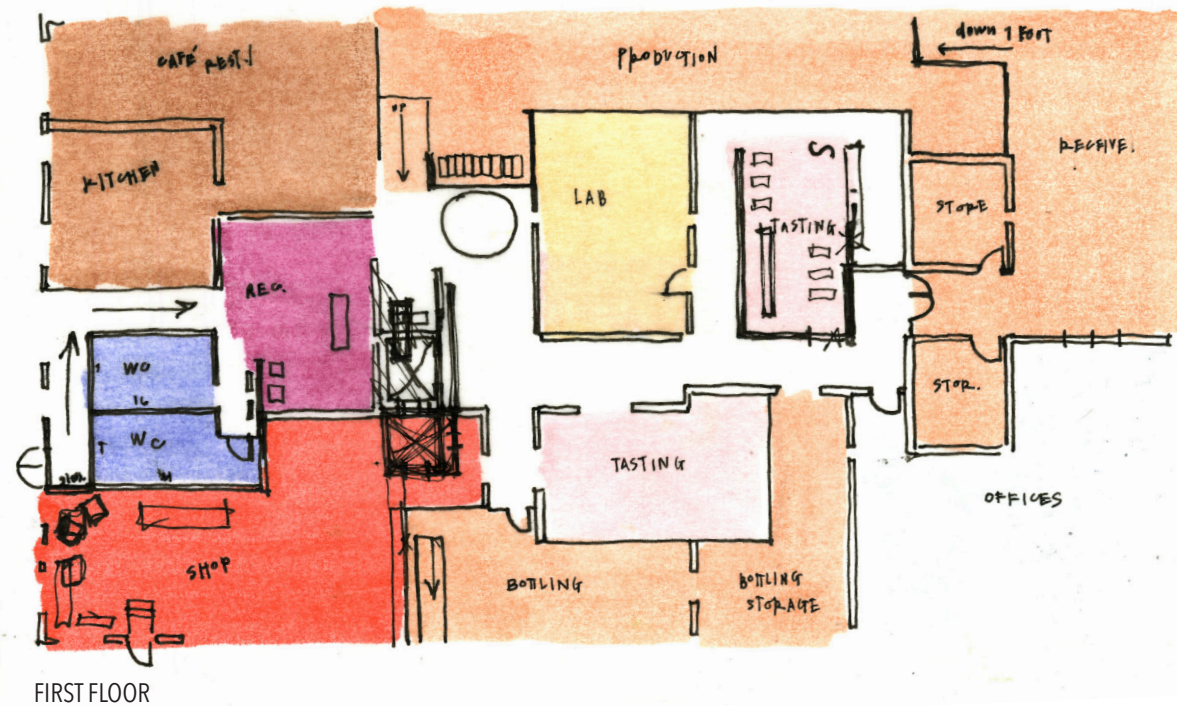


SECTION A-A

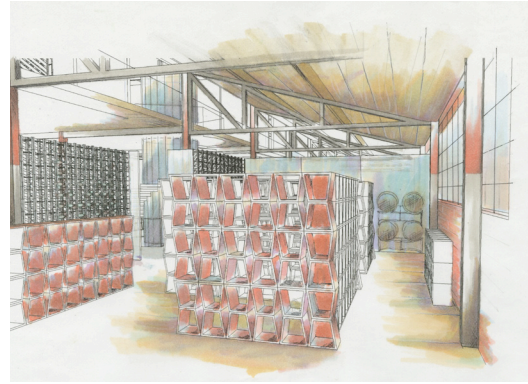
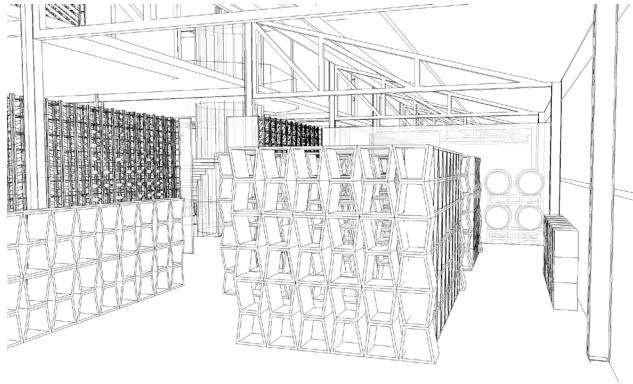


# BLOCK PLAN SEVEN

The final block plan lead to the basic layout of the final design with a few major changes. The restaurant moves upstairs to the mezzanine level, providing views of the production facility from above and more room for one large tasting room instead of two smaller ones. The bathrooms were moved to the center of the facility so staff and guests alike have equal access. The lab is moved to a more central location along with the bathrooms to expose itself to the visitor upon arrival.



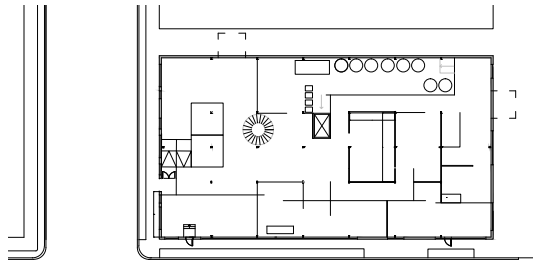




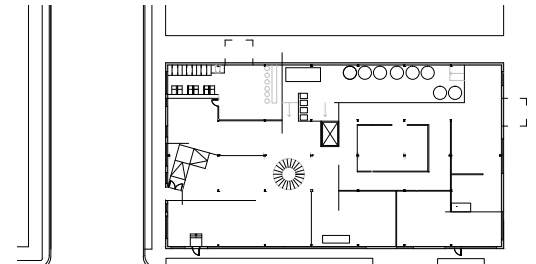


{ FIRST FLOOR PLAN STUDIES

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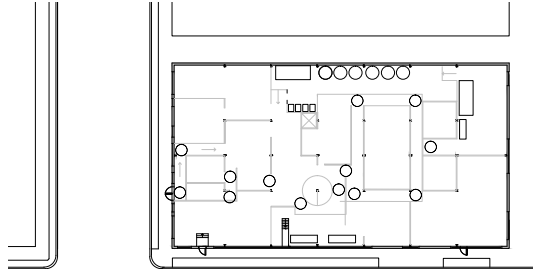


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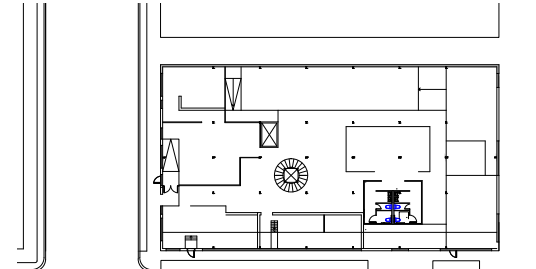


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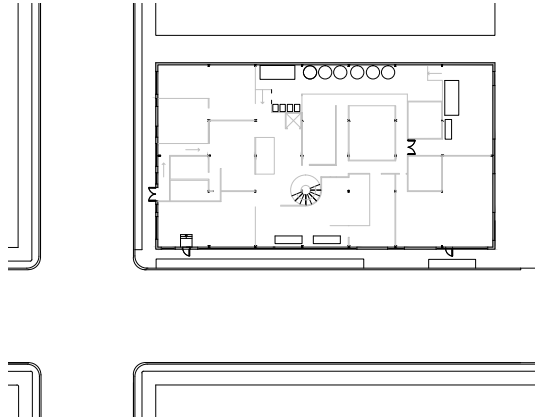
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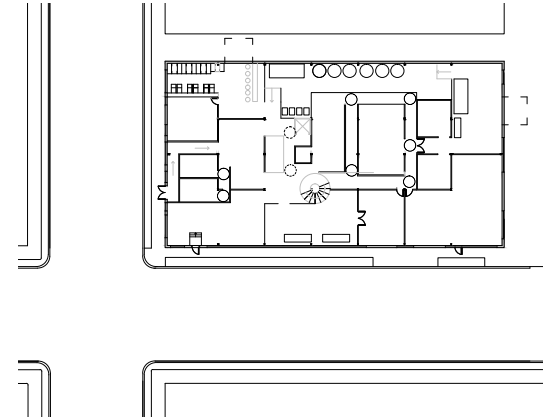
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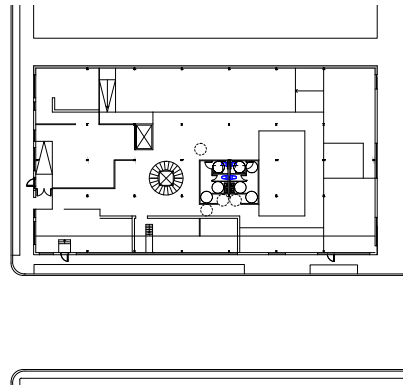
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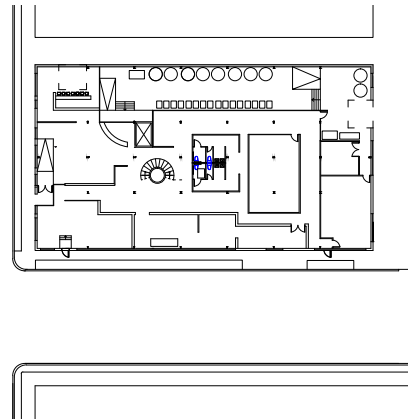
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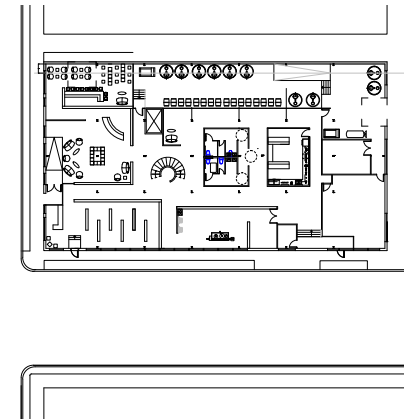
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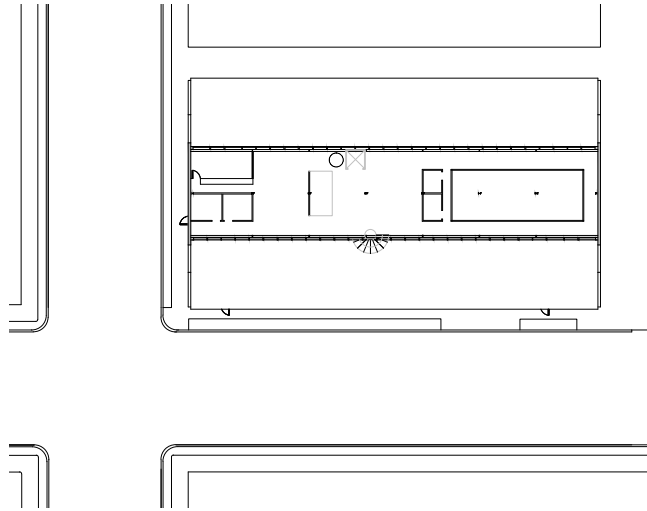


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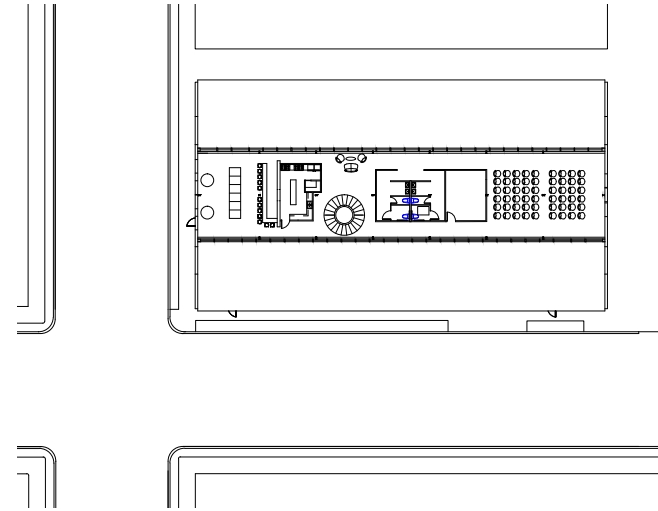


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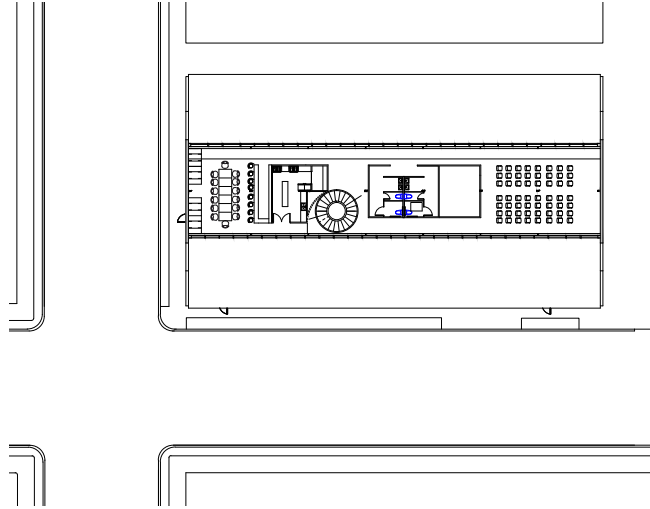
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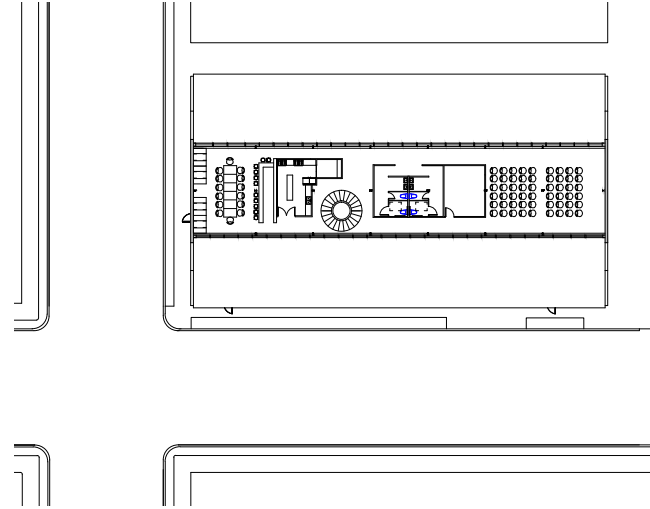
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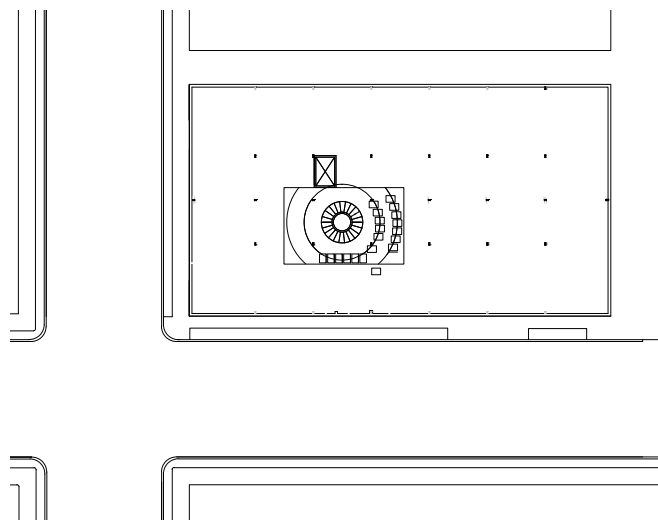


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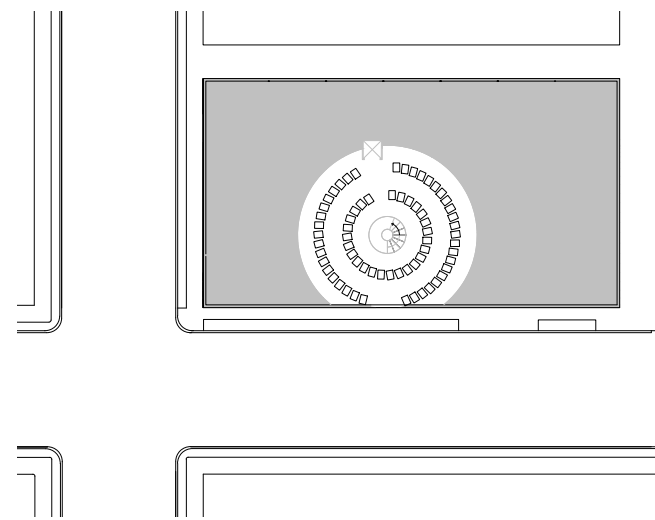


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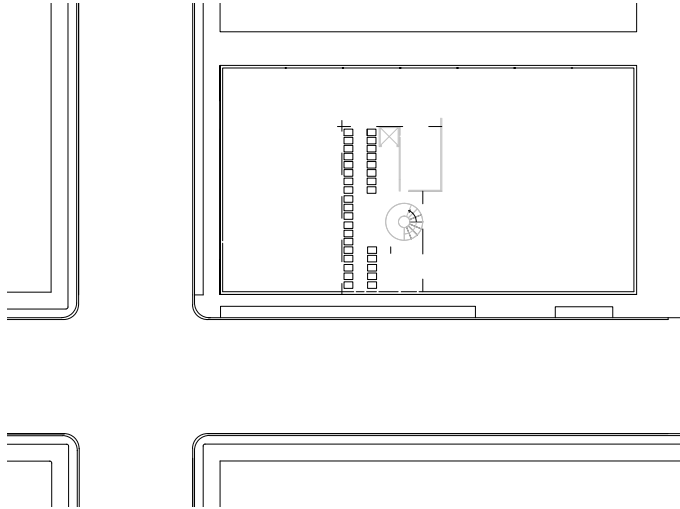
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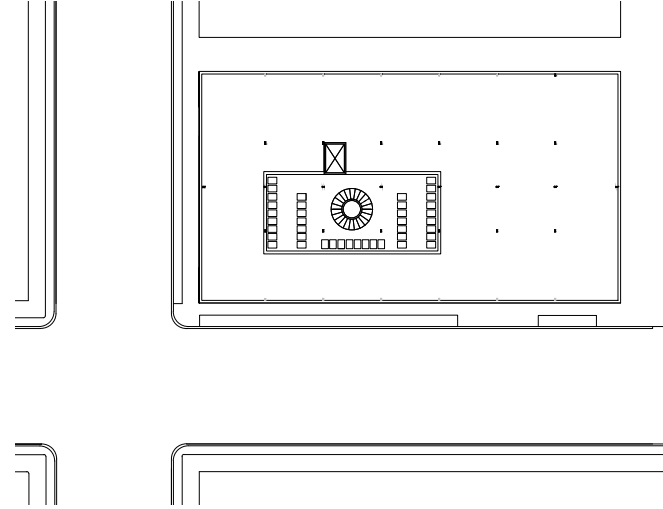
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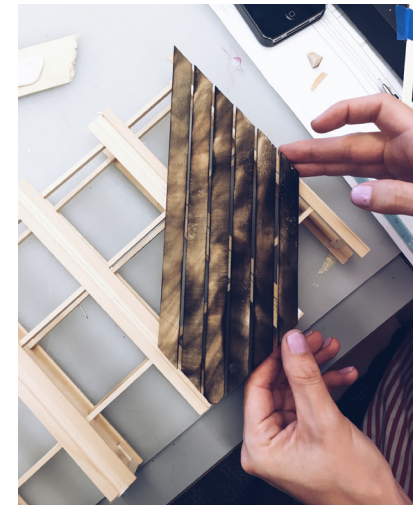
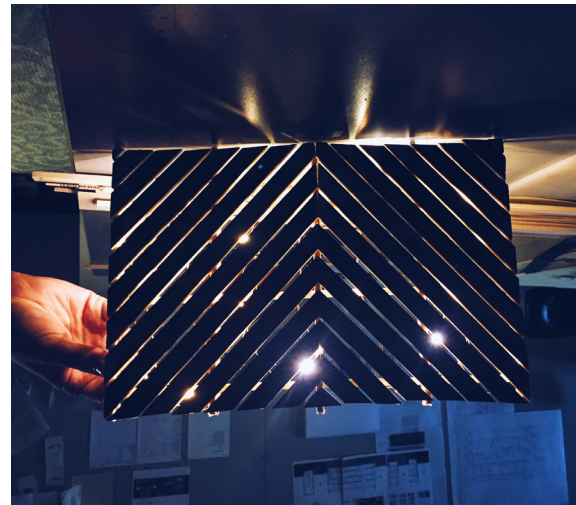
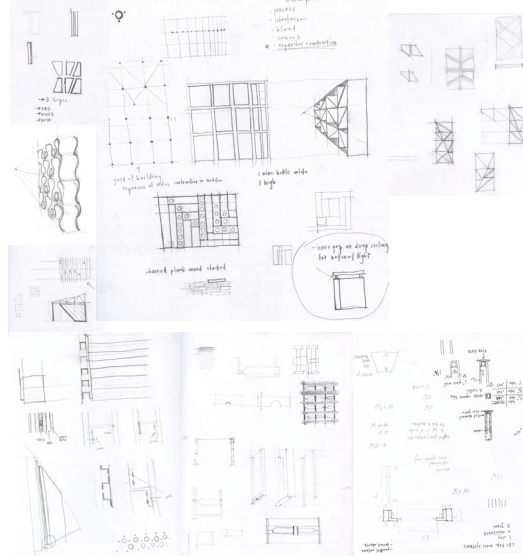


## { WALL DETAIL PROCESS

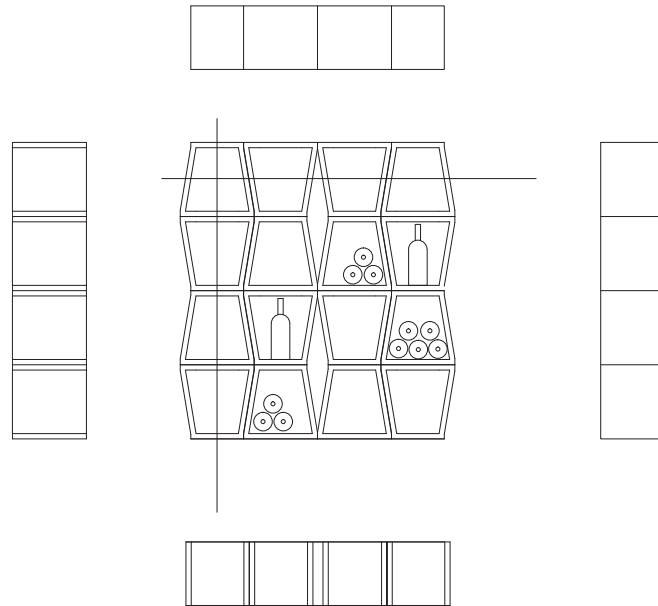
The design of a winery quickly lead from floor plan to wall details and materiality. Dealing with objects like wine bottles necessitates special treatment of the wall systems found within the winery. As such, design development lead to three wall systems that house wine. These aid in saving floor space within the areas of the facility that require bottle storage (wine shop, tasting room, restaurant, and bottling facility). They also gave rise to a thorough investigation of materials that reveal different aspects of the winemaking process. The process lead to the use of interesting modeling materials and treatments, such as Mexican modeling clay, charring basswood, and welding acrylic.



93

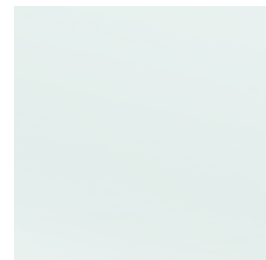
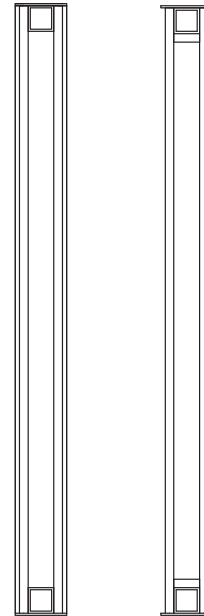


RED CLAY WALL



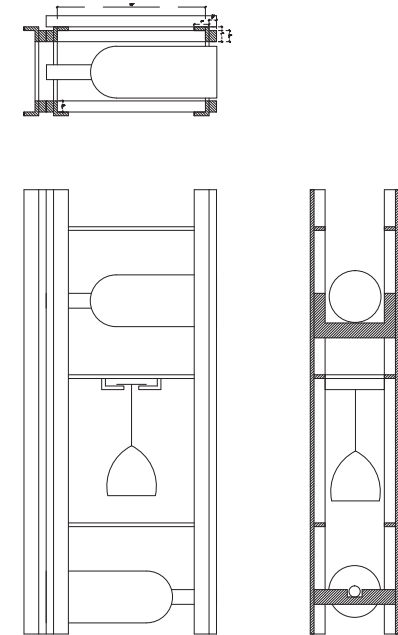
94.1

GLASS WALL



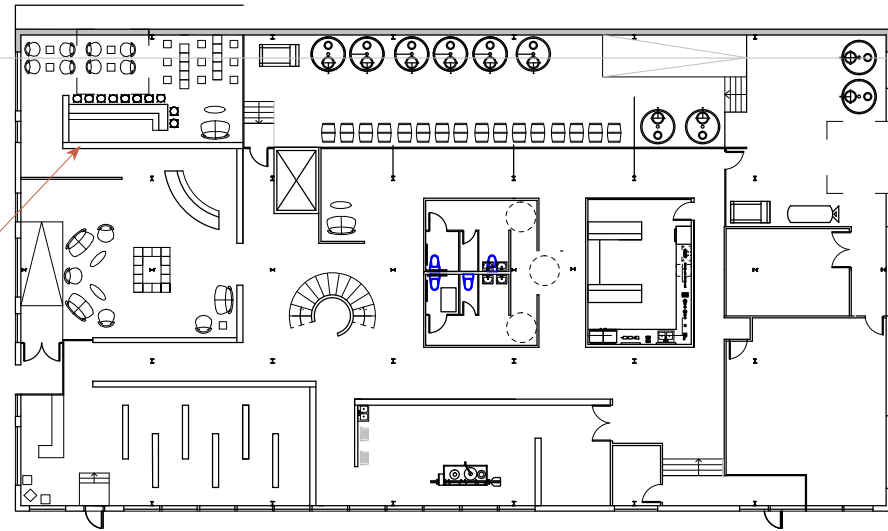
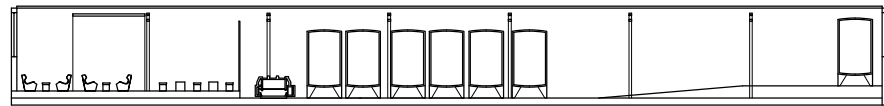
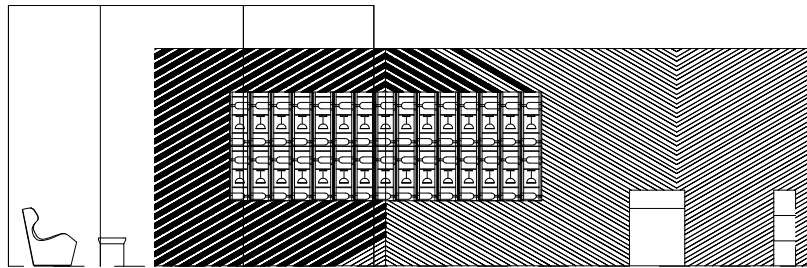
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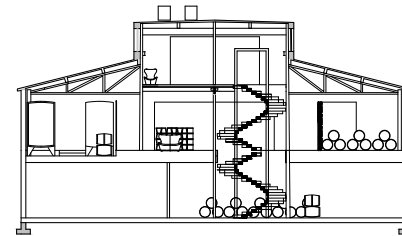
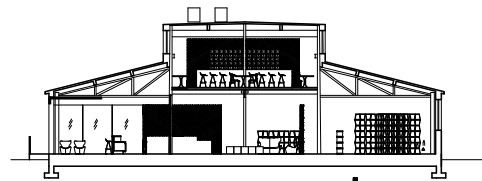
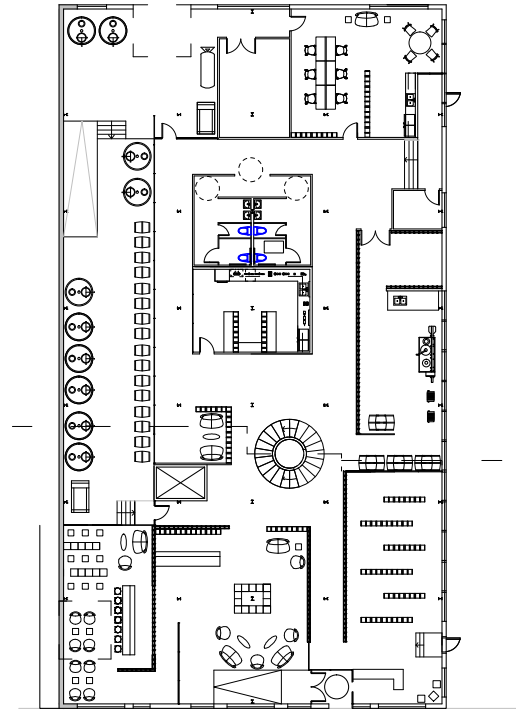
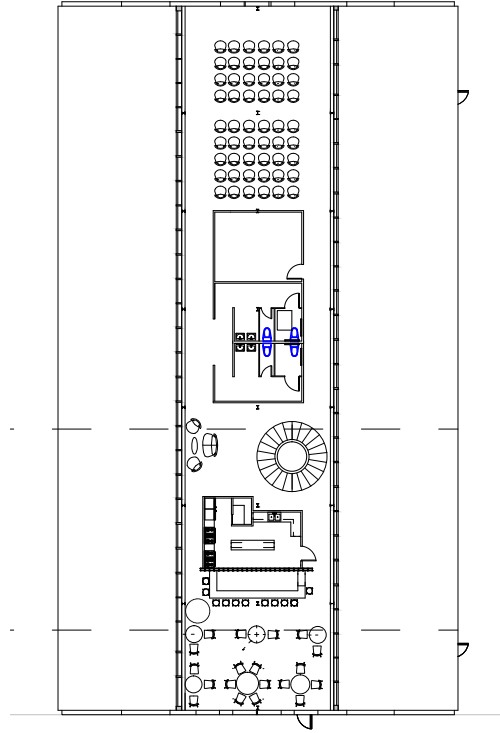
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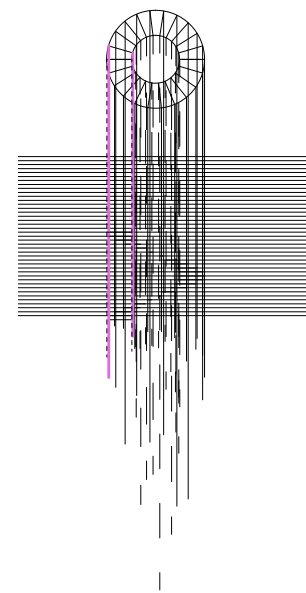
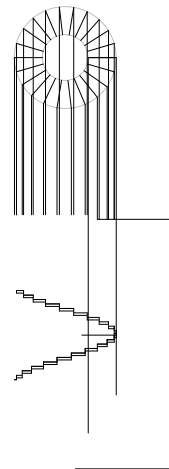
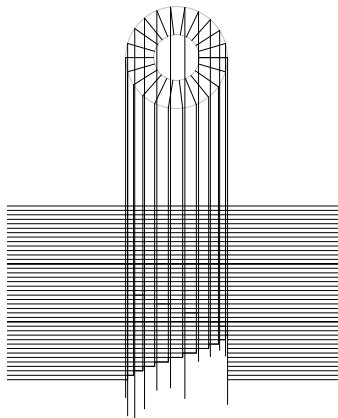


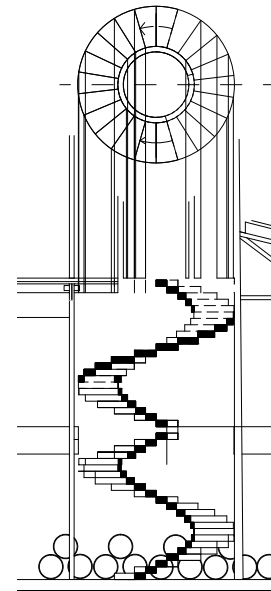
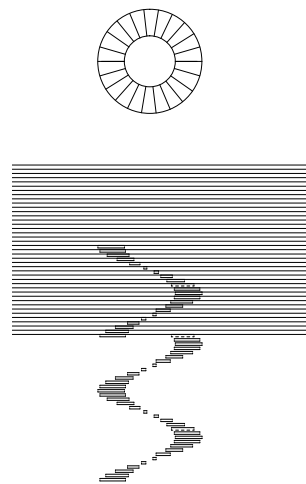
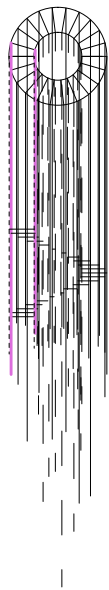
94.3











## { COLOR PALETTE

Color palette of material used in the design aided in the decision to add complimentary colors for the furniture upholstery. The Papilio line for B+B Italia adds organic shapes into the space to reflect the organic nature of the winemaking process. Similar forms were found in the Eroded Stools by IM LAB. The stools and degree side table further reveal process as they are made of cork.



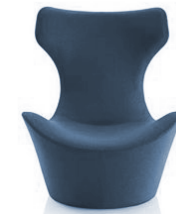
arabesco marble



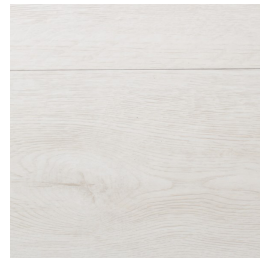
CHARRED OAK



ERODED STOOLS  
I M LAB



GRANDE PAPILIO  
B+B ITALIA



WHITE OAK



RED CLAY



DEGREE SIDE TABLE  
PATRICK NORGUET



MINI PAPILIO  
B+B ITALIA



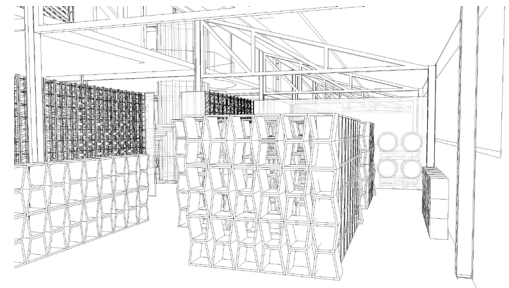
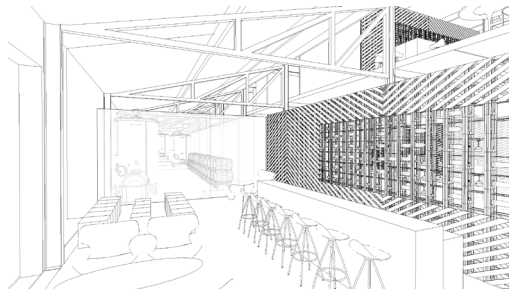
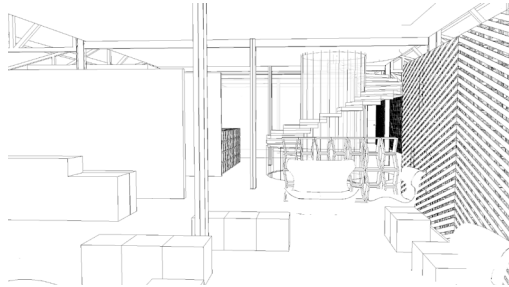
RUST



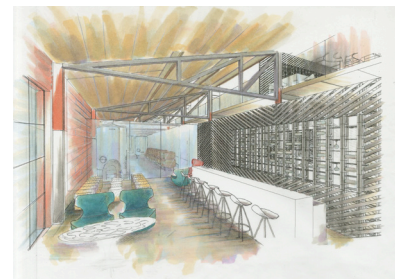
LOVE PAPILIO  
B+B ITALIA







SKETCH UP MODEL

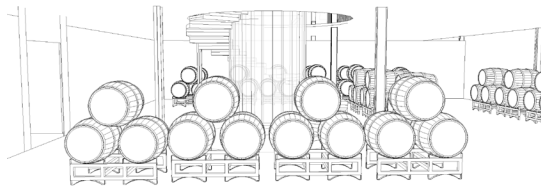
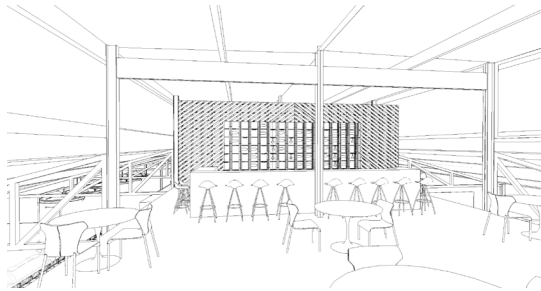


MARKER, COLORED PENCIL + PEN

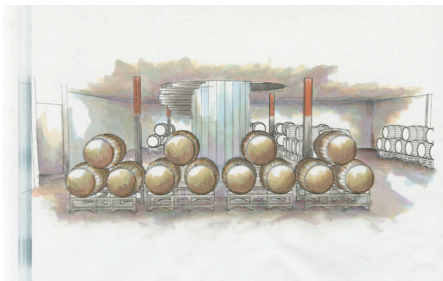
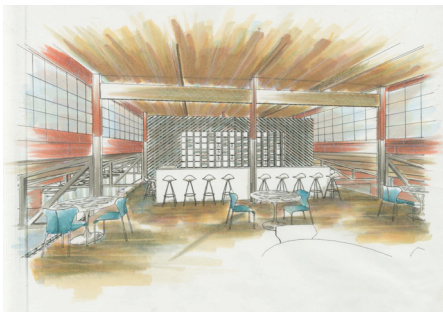


PHOTOSHOP

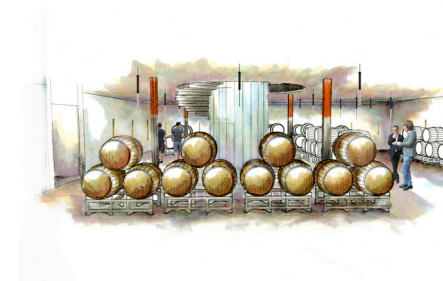
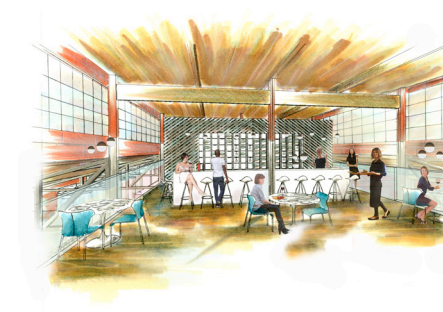




SKETCH UP MODEL



MARKER, COLORED PENCIL + PEN



PHOTOSHOP





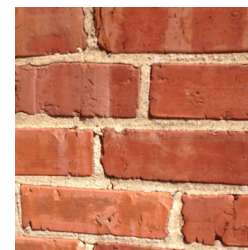
FINAL DESIGN

The intention of this thesis project is to design an experimental winery that centers around the continued quality of Virginia wines; a place where winemakers and the like can come together to collaborate on methods of growing grapes and producing wines to better the resulting products of the state. A City Winery is designed to encourage understanding of process through links between production and consumption with both a winemaking facility and laboratory that is visually linked to the restaurant, tasting rooms, and wine shop. The visual exposure to the facility in the hospitality-based spaces will stimulate patron interest and intuitive knowledge of the intricate nature of the winemaking process. This can be further explored by the patrons through production facility tours that will occur on a daily basis as well as opportunities for patrons to sign up to make wine during the post-harvest season. These activities give patrons the opportunity to understand wine on a more haptic level where they engage with the product through physical interaction.





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#### RICHMOND, VIRGINIA

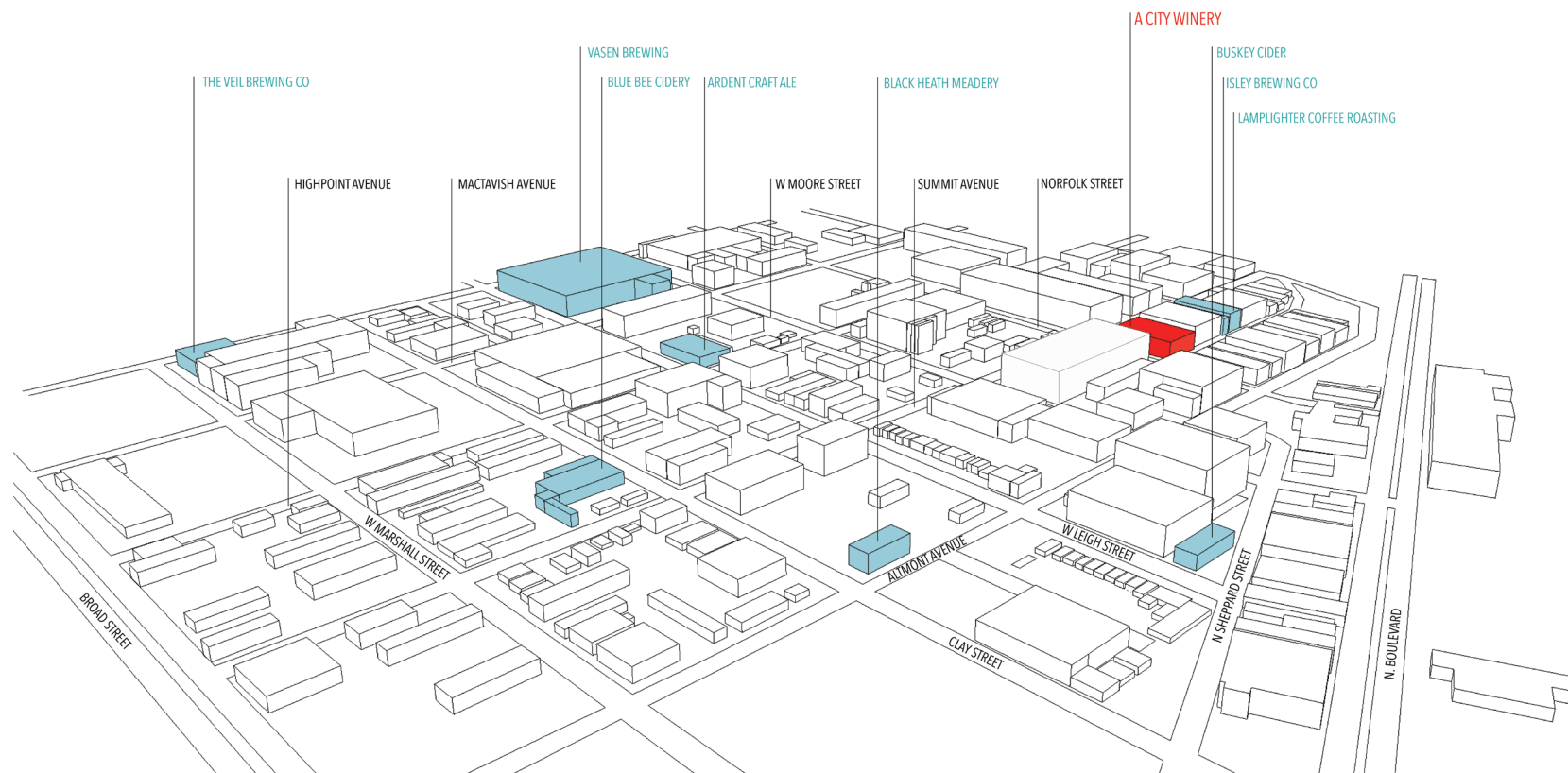
Richmond, Virginia is less than two hours South of Northern Virginia and less than an hour from Charlottesville, the two regions of the state that produce the most wine. Richmond and its surrounding counties technically reside in two of Virginia's AVAs, or American Viticultural Regions, the Monticello AVA, which encapsulates Charlottesville, and the George Washington Birthplace AVA, in close proximity to the central shoreline. Northern Virginia falls into the Middleburg AVA. As the capitol of a state that ranks in the top 5 producers of wine in the country, and is in close proximity to the state's major wineries, this thesis project logically found its location in Richmond.

#### SCOTT'S ADDITION

The neighborhood of Scott's Addition is undergoing incredible transformation. With the resurgence in craft production and services, most notably craft beer and cider in the neighborhood, it is appropriate to weave a winery into the fabric of this craft-oriented neighborhood. Scott's Addition began in the early 1900s as a residential neighborhood, populated by modest dwellings and businesses. From the 1930s into the 1950s, large industrial plants, commercial buildings, and warehouses were built among the existing dwellings. Large industrial plants and commercial structures are the dominant building type in the area today.

#### BUILDING INFORMATION

1701 Summit Ave is located on the corner of Summit Avenue and Norfolk Street. Built in 1920, possibly as a warehouse associated with a ginger ale bottling company, it is constructed with brick and mortar, steel I columns, and wood. Consisting of one main floor, a mezzanine and a basement, 1701 Summit Avenue occupies 12,264 square feet.



MIDDLEBURG AVA



MONTICELLO AVA



GEORGE WASHINGTON BIRTHPLACE AVA

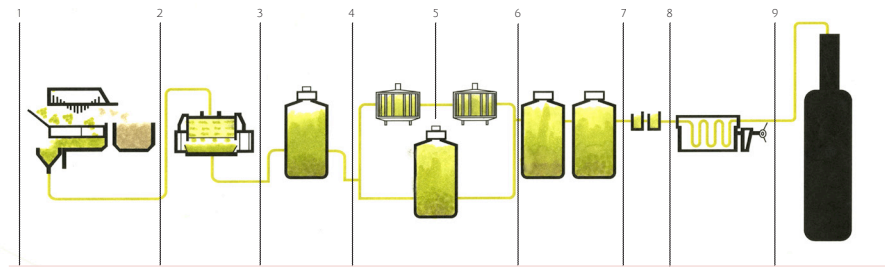
● Richmond



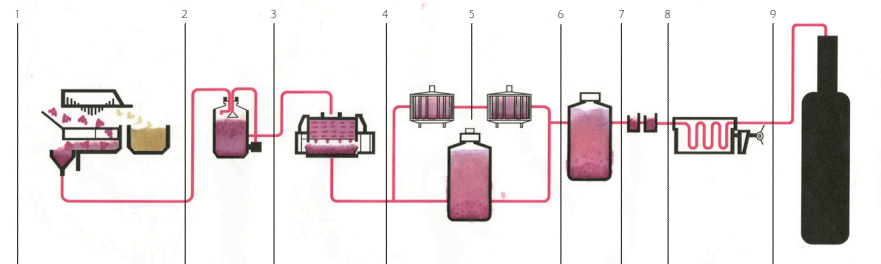
## { CONCEPT

Conceptually, the project is inspired by the rhythmic nature of the grape vine and celebrates the undulating and fluid process of winemaking. An in depth analysis of winemaking and the steps the grapes undergo to become wine reveal a process that ebbs and flows, intertwining creativity and pragmatics, art and science, man and nature. The expression of these dichotomies lead to important drivers of the project such as expansion and contraction, high contrast and meander, where the space is designed to provoke sensory experience and exploration through circulation, volume and materiality.

### WHITE WINE



### RED WINE

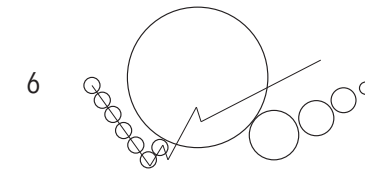
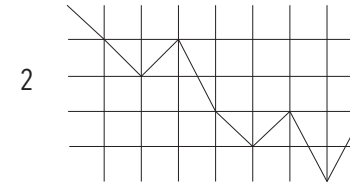
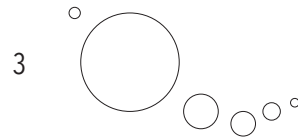
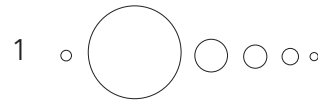


## { DIAGRAMS

An analysis of winemaking as steps in a process were created to inform the layout of the production facility. The functions within the facility include crushing/destemming, press, fermentation, age, filter, and bottle. The circles drawn in the diagrams change in scale due to changes in volume and vessel size (grape is smaller than fermentation tank, which is larger than a wine bottle, etc.) The diagrams also consider changes in momentum and longevity throughout the process. The diagrams are abstractions of this process and are a series of steps that show evolution of thought and layering of ideas.

This informed a possible floor plan strategy for the production facility, and gave birth to ideas pertaining to the floor rising and falling with the process. The grapes go up into the building to be received, down to crush and ferment, down farther to the cellar to age, and back up to filter, bottle and drink.

In addition, these diagrams informed orientation of materials, form, lighting and layering throughout the design process.



## { MATERIALS + DETAILS

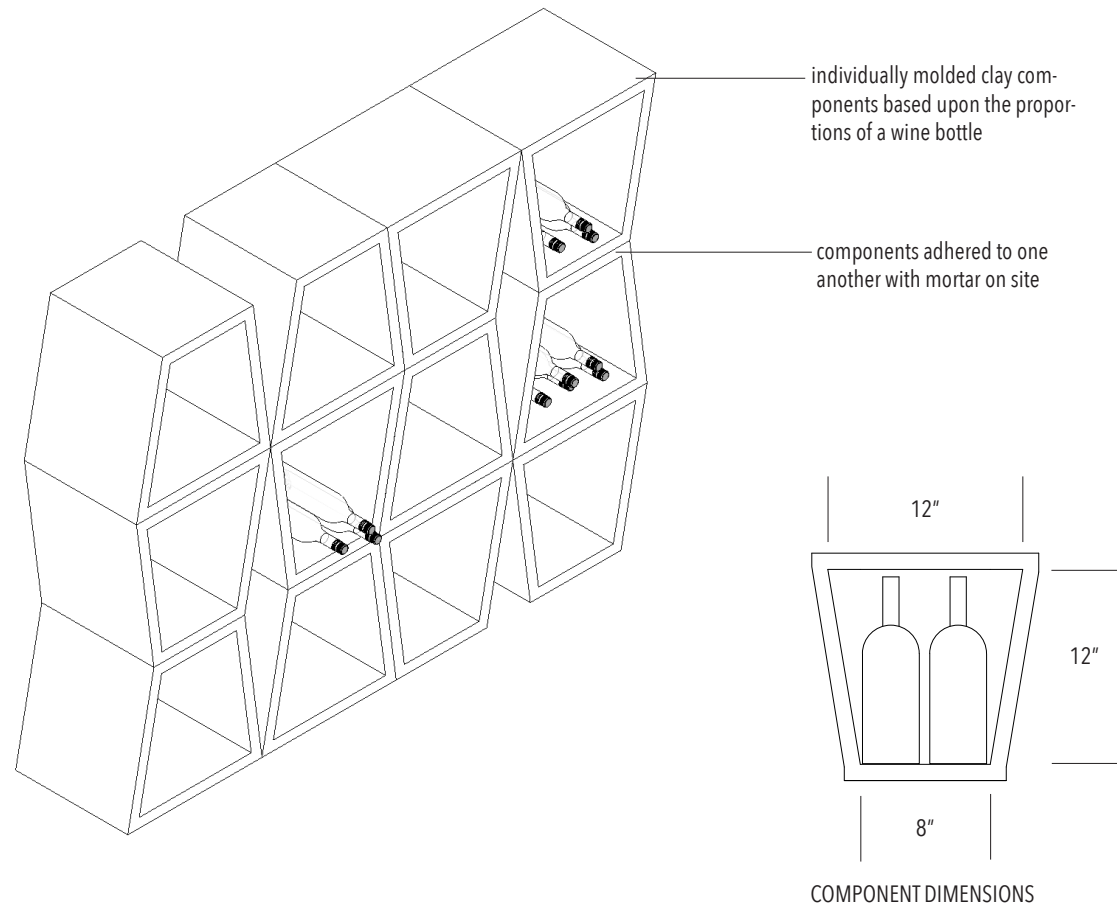
### RED CLAY

Red clay, or cecil, is a major component of Virginia soil. As soil is such an integral part in the winemaking process, red clay is used as a building material to express this connection between the land and wine. The design of a clay wall system comprised of individually molded components references the soil from which the wine it houses is born. Based on the dimensions of a wine bottle, this wall system is a vessel for the vessels, and can be assembled in a variety of orientations.

111



111.1

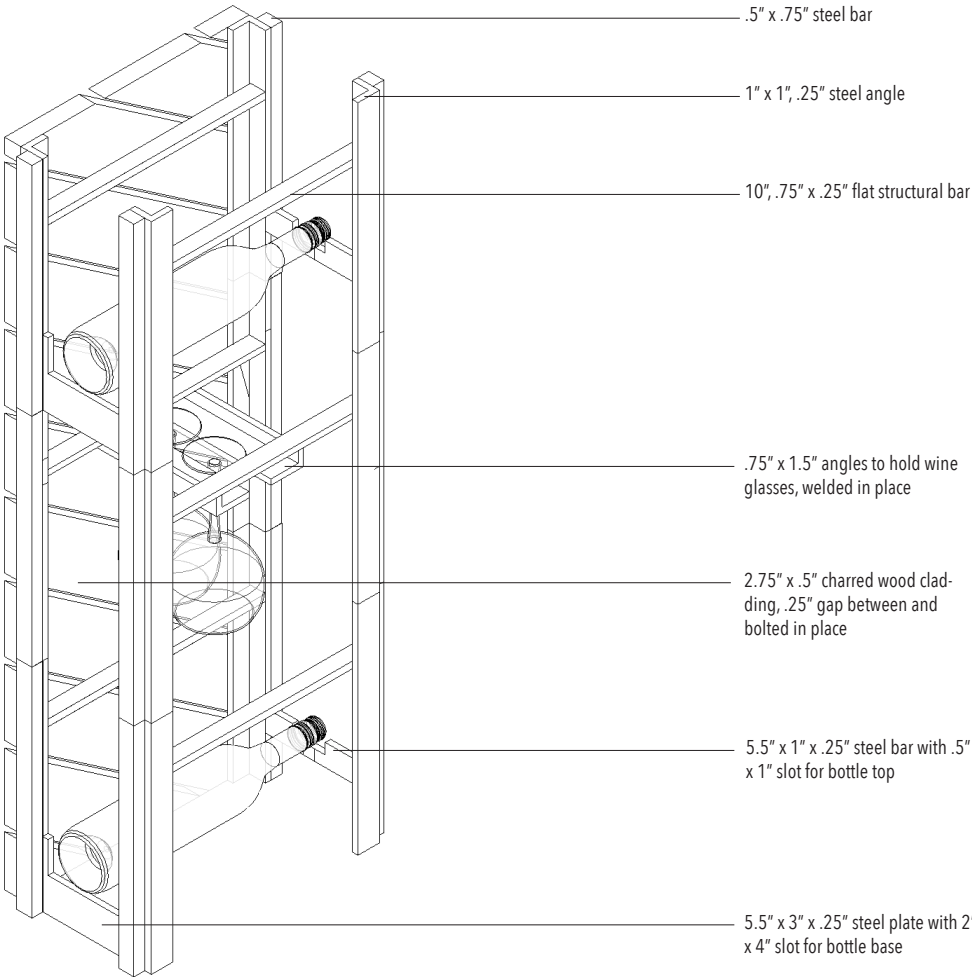


CHARRED OAK

Before barrels are shipped to winemakers, they are pre-charred to the taste of the winemaker, ranging from lightly toasted to full char. This is done to impart a certain level of flavor into the wine, where the heavier char will render the wine a more smoky taste. This part of the process is integral to the essence of the wine, but is rarely expressed. Charred wood is a building material gaining popularity in the United States, but is an ancient technique in Japan known as Shou Sugi Ban. Charred oak is used to clad a hot rolled steel wall system that houses wine and wine glasses throughout.



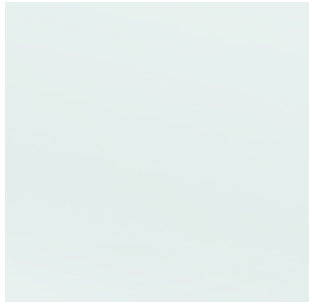
112.1



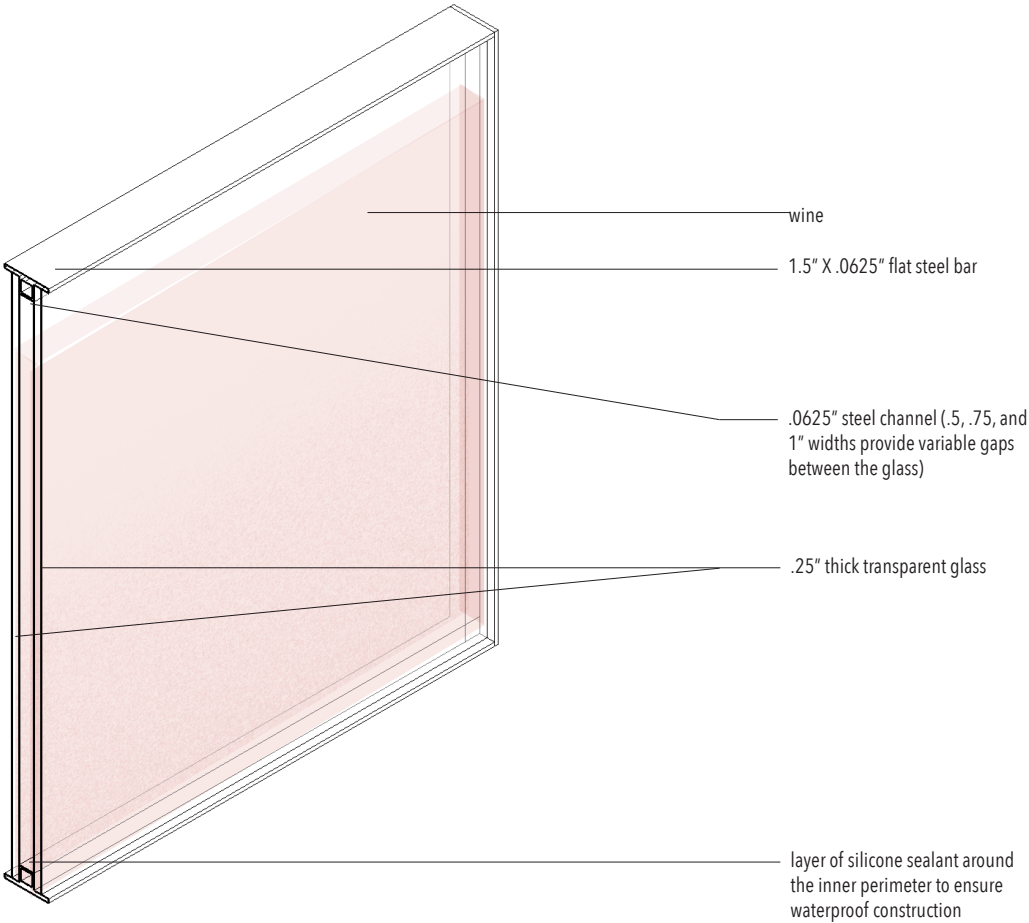
GLASS

Glass is used to create as few visual boundaries as possible. Throughout the design process, the desire to expose the color variations of the wine lead to the design of a wall/guardrail system made of steel and glass that physically holds wine in its liquid form to showcase its color in its natural state. Wine is tasted starting with the lightest white to the darkest red and as such, the guardrails follow this gradient.

113



113.1



RUSTED COLUMNS

Cork is a vital material in the process of winemaking, used traditionally as stoppers for the bottles. During the spring and summer, the bark of the cork tree is rapidly growing and tender so is easily removable. This outer bark is used to make anything from bottle stoppers to furniture and as seen in the photo, the stripping exposes a rust-like sublayer of the tree.

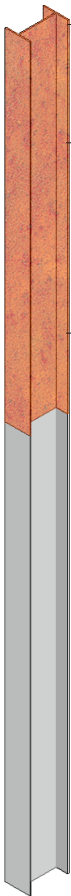
As the space is constructed using I beam columns, the idea to abstract the cork tree onto the columns became an important design strategy. To ensure that the process of the design authentically references the process of the cork stripping, the application of material such as paint did not align. Instead, the columns will be rusted to strip the first layer off the steel columns along a datum line throughout the space to reveal a similar color and layered affect. To ensure that rust does not come into contact with visitors' clothing, the top of the columns receive the rust instead of the base.



114.1



114.2



steel above 7' will be stripped of any paints or finishes

spray desired area with vinegar several times using a spray bottle. The acid in the vinegar etches the metal so chemicals can penetrate

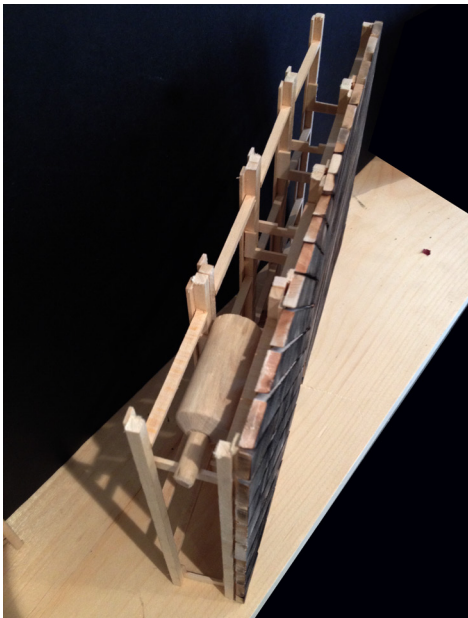
combine hydrogen peroxide, white vinegar and salt and spray accelerator solution onto the metal



{ FINAL MODELS



CLAY WALL- CHIPBOARD + MEXICAN  
MODELING CLAY + MOD PODGE



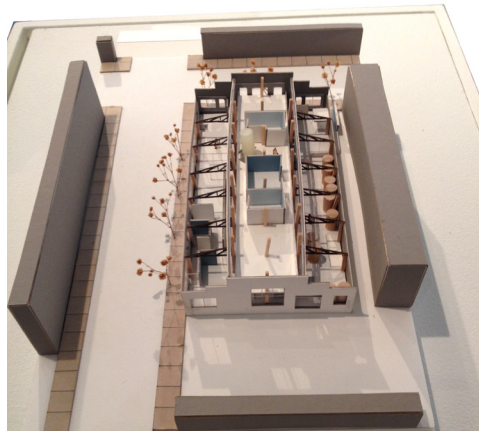
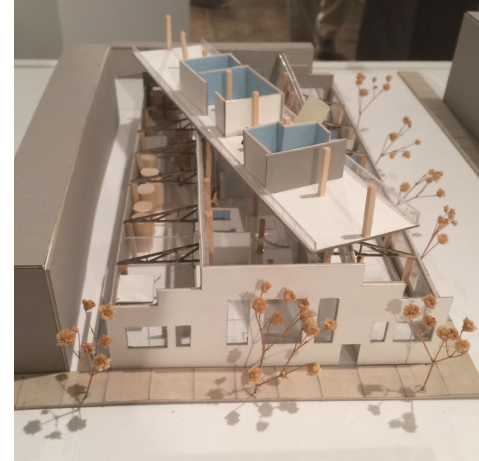
CHARRED OAK WALL - BASSWOOD



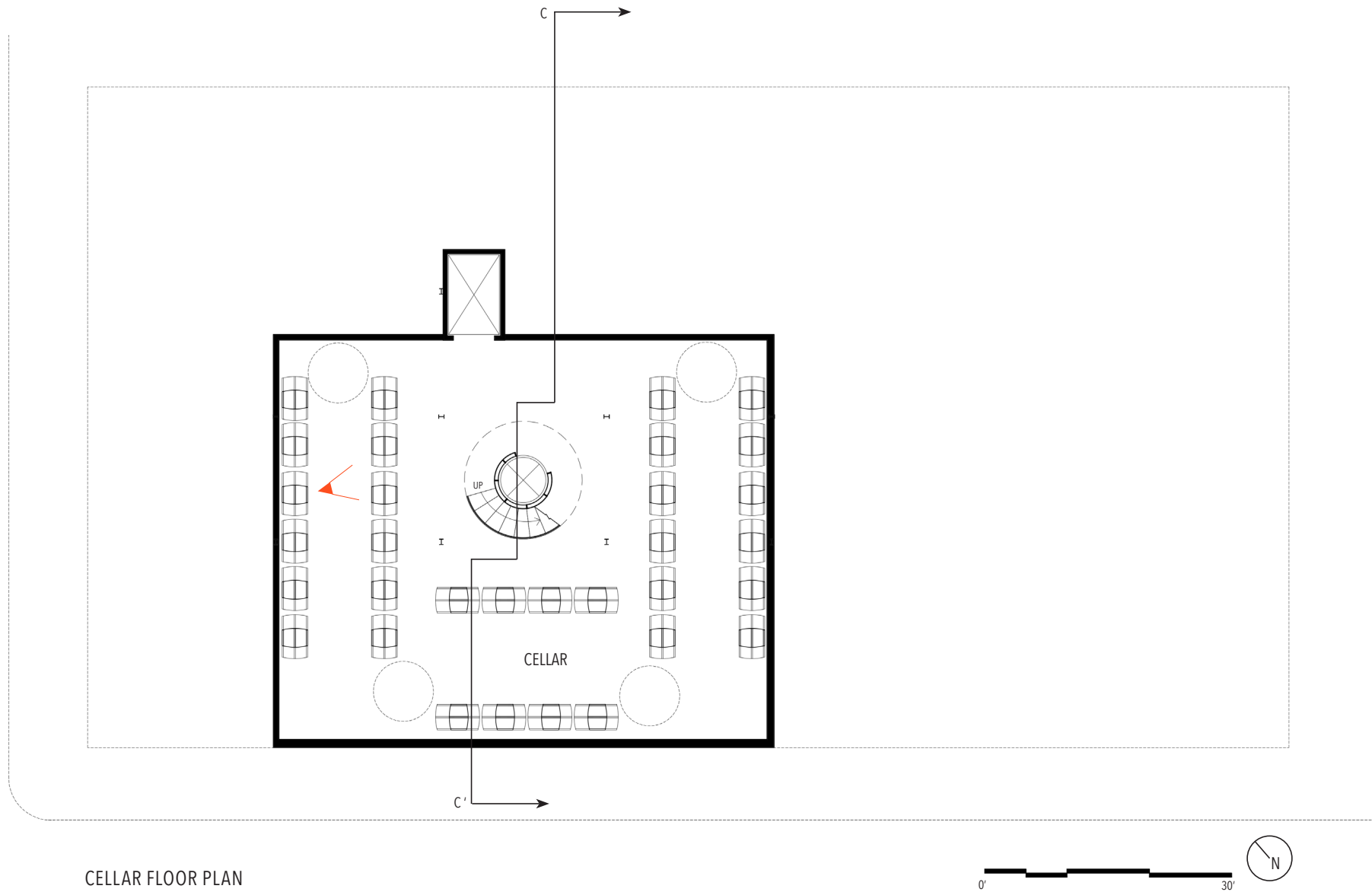
GLASS WALL- ACRYLIC + ADHESIVE + WINE

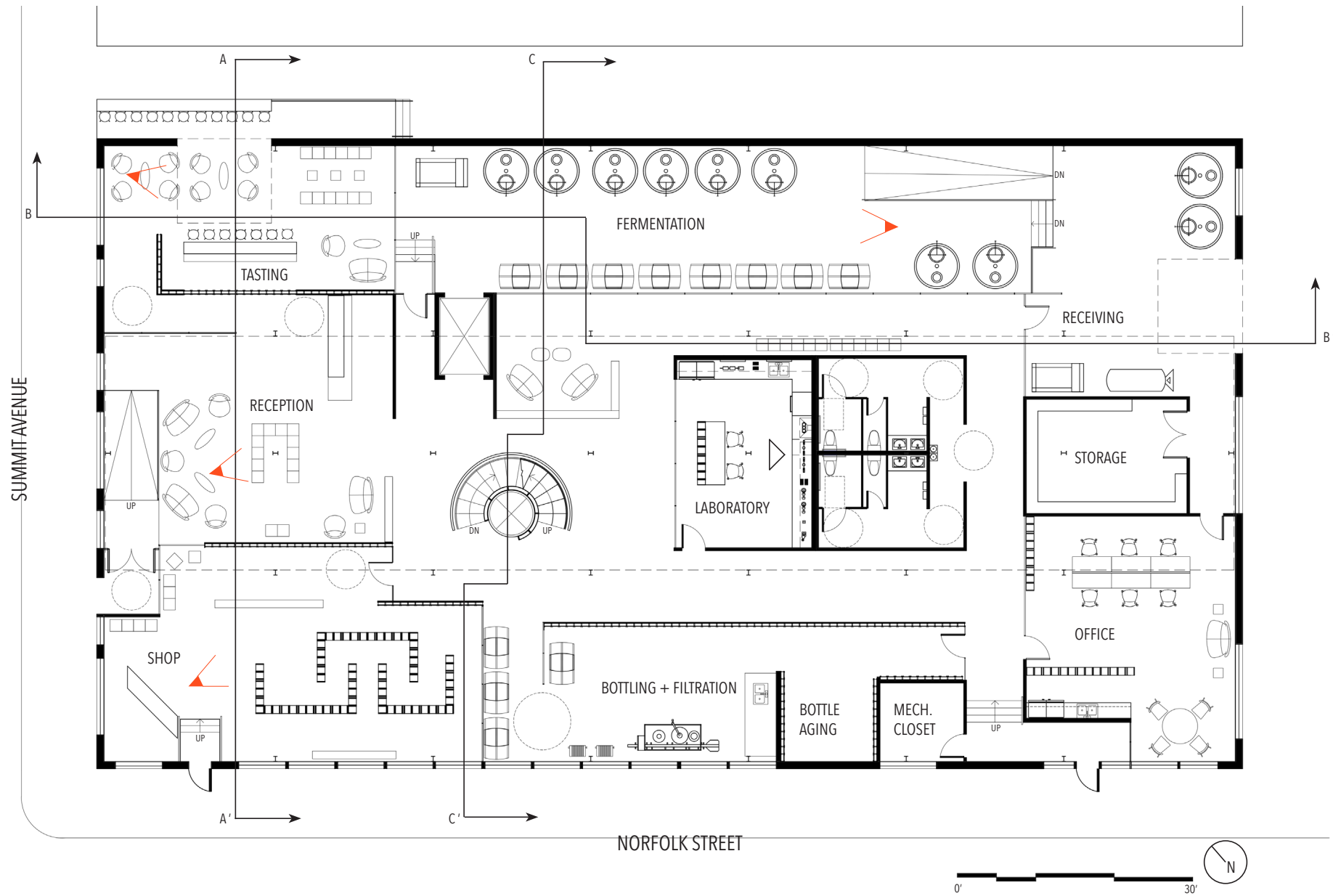


{ BUILDING MODEL

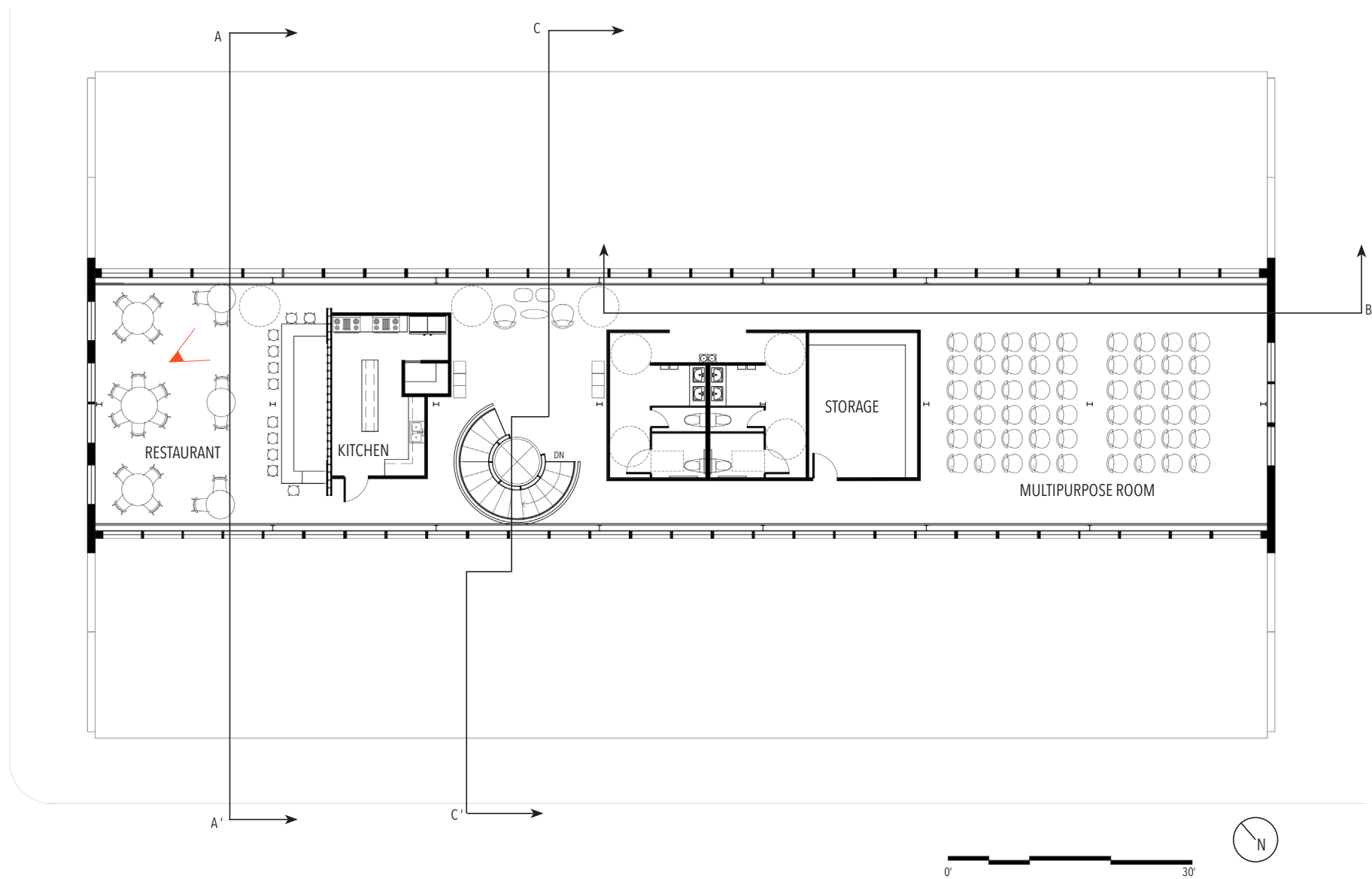






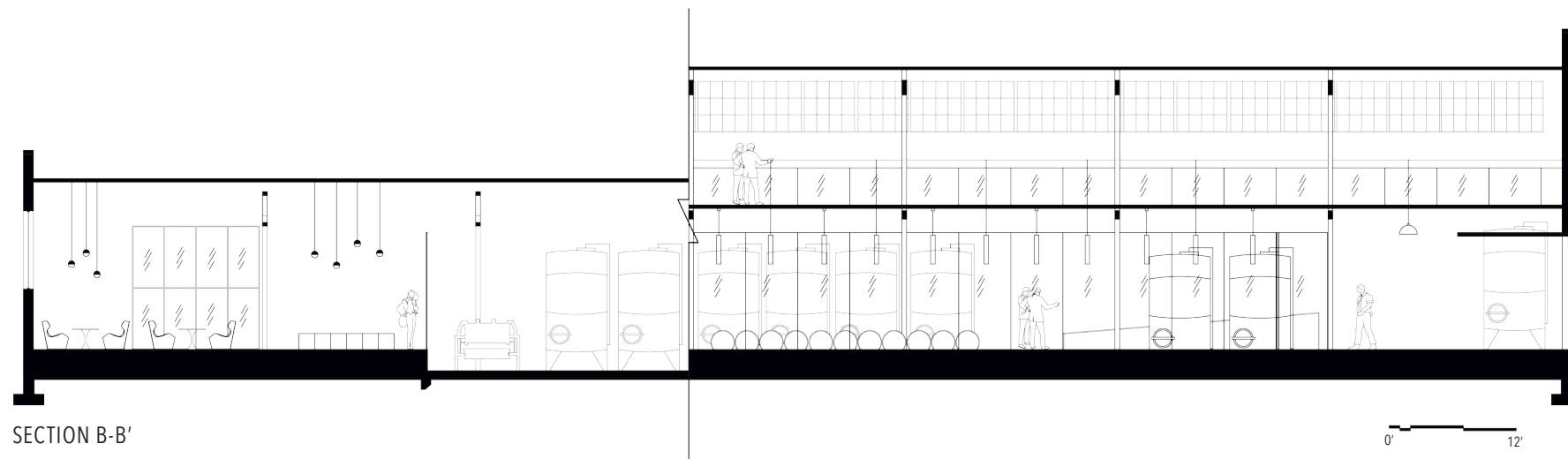
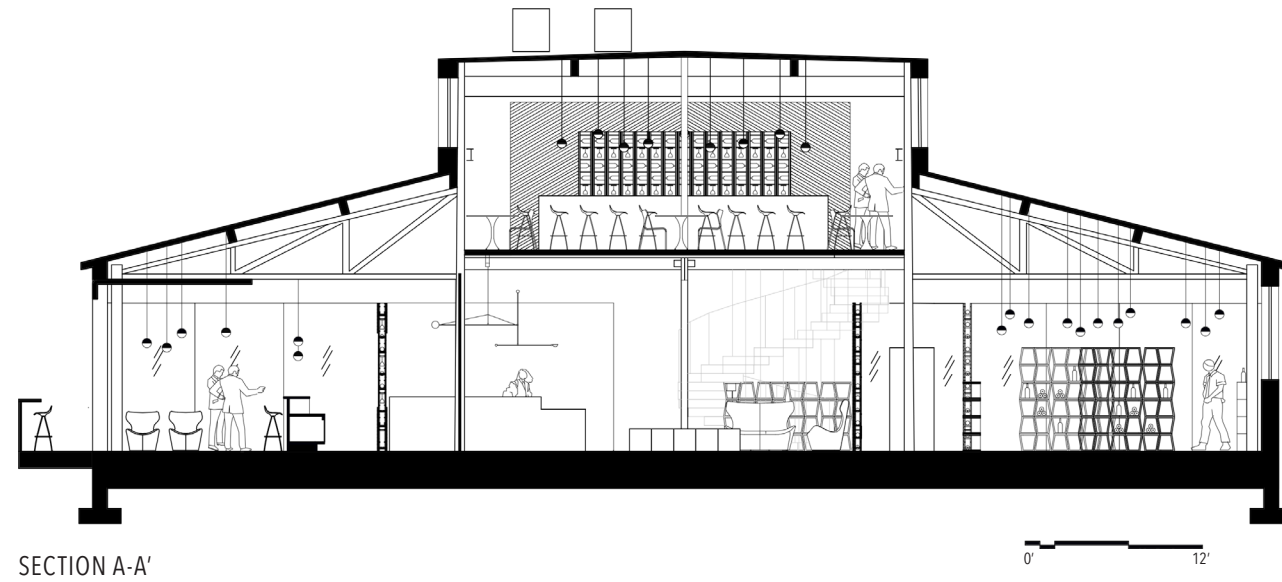


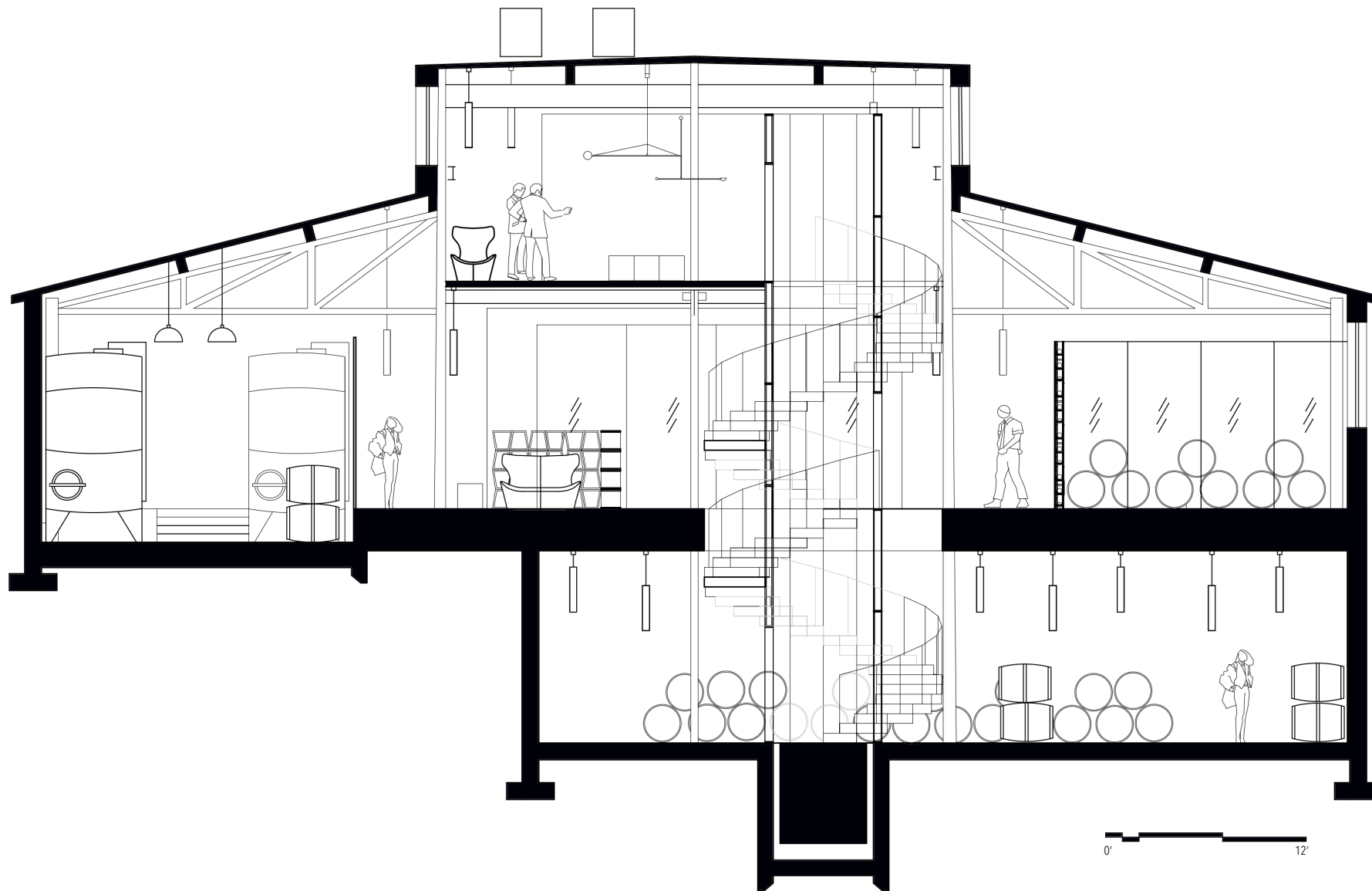
FIRST FLOOR PLAN



120

MEZZANINE FLOOR PLAN





SECTION C-C'

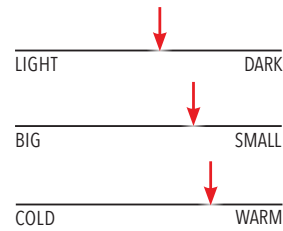


## { RECEPTION

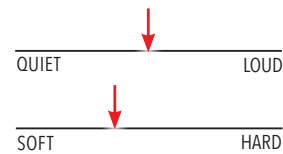
A liminal, welcoming space where visitors to A City Winery are oriented to the various activities and services available. Daily tours of the wine production facility and laboratory as well as classes where one actively participates in winemaking over the course of a few months are two key components. Direct access to hospitality-based spaces– the shop, tasting room and restaurant– allows for short-term visitors to access these areas most readily.

123

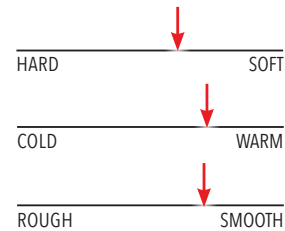
### VISUAL QUALITY



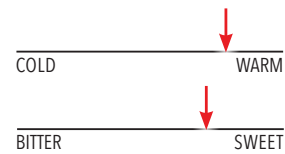
### SOUND QUALITY



### TACTILE QUALITY



### SMELL QUALITY



DEGREE SIDE TABLE  
PATRICK NORQUET



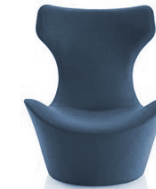
ERODED STOOLS  
I M LAB



TULIP COFFEE TABLE  
SAARINEN FOR KNOLL



LOVE PAPILO  
B+B ITALIA



GRANDE PAPILO  
B+B ITALIA



BELLANO 440



BELLANO 400



ANDRIA 444



MOBILE CHANDELIER  
MICHAEL ANASTASSIADES



STRING LIGHTS  
MICHAEL ANASTASSIADES



WHITE OAK FLOORING  
WELLBORN + WRIGHT



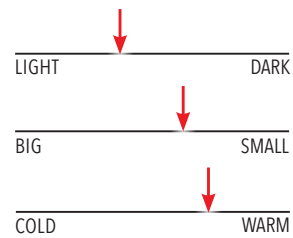


## { TASTING

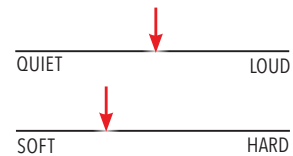
The tasting room provides a space for patrons to learn about and experience several varieties of Virginia wine. The tasting room is where patrons are guided through the sensory qualities of the wine in general – primarily, color, smell, and taste. The order in which wines are tasted is from the lightest white to the darkest red. Here, discussions will ensue on the flavors found within the wine, giving the patrons a chance to inform the staff on what they taste instead of having the staff dictate what they will taste. This brings another level of research to the facility, where the patrons' experience of the wine is used to reflect on the flavors of the wine from the winemaker's perspective.

125

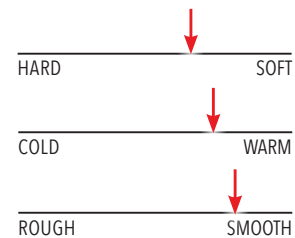
### VISUAL QUALITY



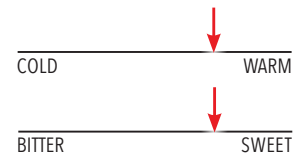
### SOUND QUALITY



### TACTILE QUALITY



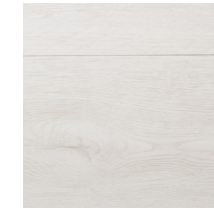
### SMELL QUALITY



DEGREE SIDE TABLE  
PATRICK NORGUET



TULIP COFFEE TABLE  
SAARINEN FOR KNOLL



WHITE OAK FLOORING  
WELLBORN + WRIGHT



ONDA STOOLS  
STUA



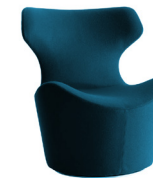
ERODED STOOLS  
I M LAB



WHITE BACK PAINTED GLASS  
SURFACE PRODUCTS INC.



LOVE PAPILIO  
B+B ITALIA



MINI PAPILIO  
B+B ITALIA



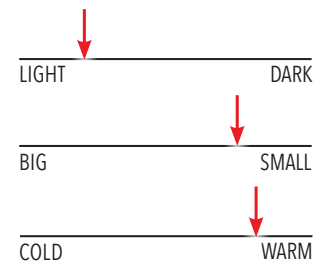
STRING LIGHTS  
MICHAEL ANASTASSIADES



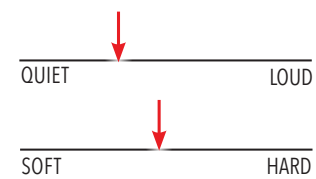
## { SHOP

The wine shop provides patrons with an extensive selection of Virginia wines from vineyards statewide as well as wines produced in house. The shop has its own point of entry from the outside, making it readily accessible for patrons that want to directly buy wine to take home. A glass wall divides the shop and the bottling facility, creating a visual connection between these two points in the wine production process –bottling/aging and distribution.

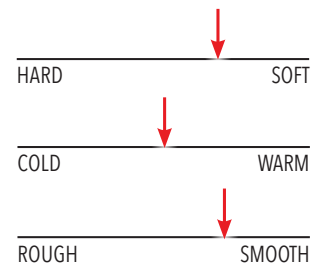
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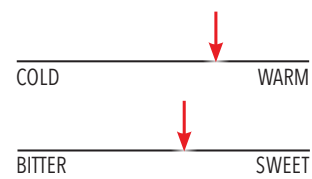
### SOUND QUALITY



### TACTILE QUALITY



### SMELL QUALITY



ERODED STOOLS  
I M LAB



DEGREE SIDE TABLE  
PATRICK NORGUET



WHITE OAK FLOORING  
WELLBORN + WRIGHT



STRING LIGHTS  
MICHAEL ANASTASSIADES

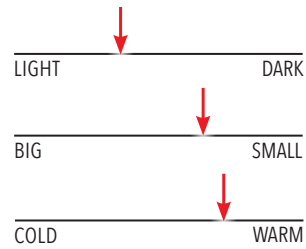




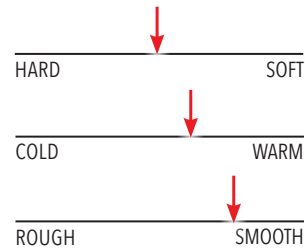
## { RESTAURANT

The restaurant brings the wine tasting experience to another level, where the pairing of specific wines and foods is explored. This incites another instance of collaboration and experimentation between the winemakers and chefs, who work together to create new sensations and flavors through the combination of food and drink. The restaurant is located on the mezzanine level, which provides views below, creating a sensory connection between the restaurant and the two first floor areas of production- fermentation and bottling.

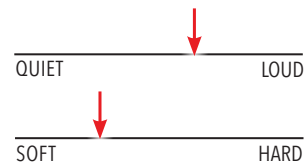
### VISUAL QUALITY



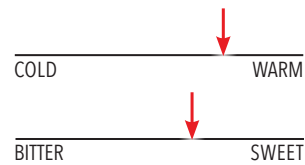
### TACTILE QUALITY



### SOUND QUALITY



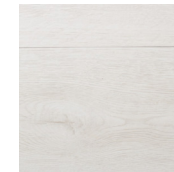
### SMELL QUALITY



ONDA STOOLS  
STUA



TULIP DINING TABLE  
SAARINEN FOR KNOLL



WHITE OAK FLOORING  
WELLBORN + WRIGHT



PAPILIO DINING CHAIR  
B+B ITALIA

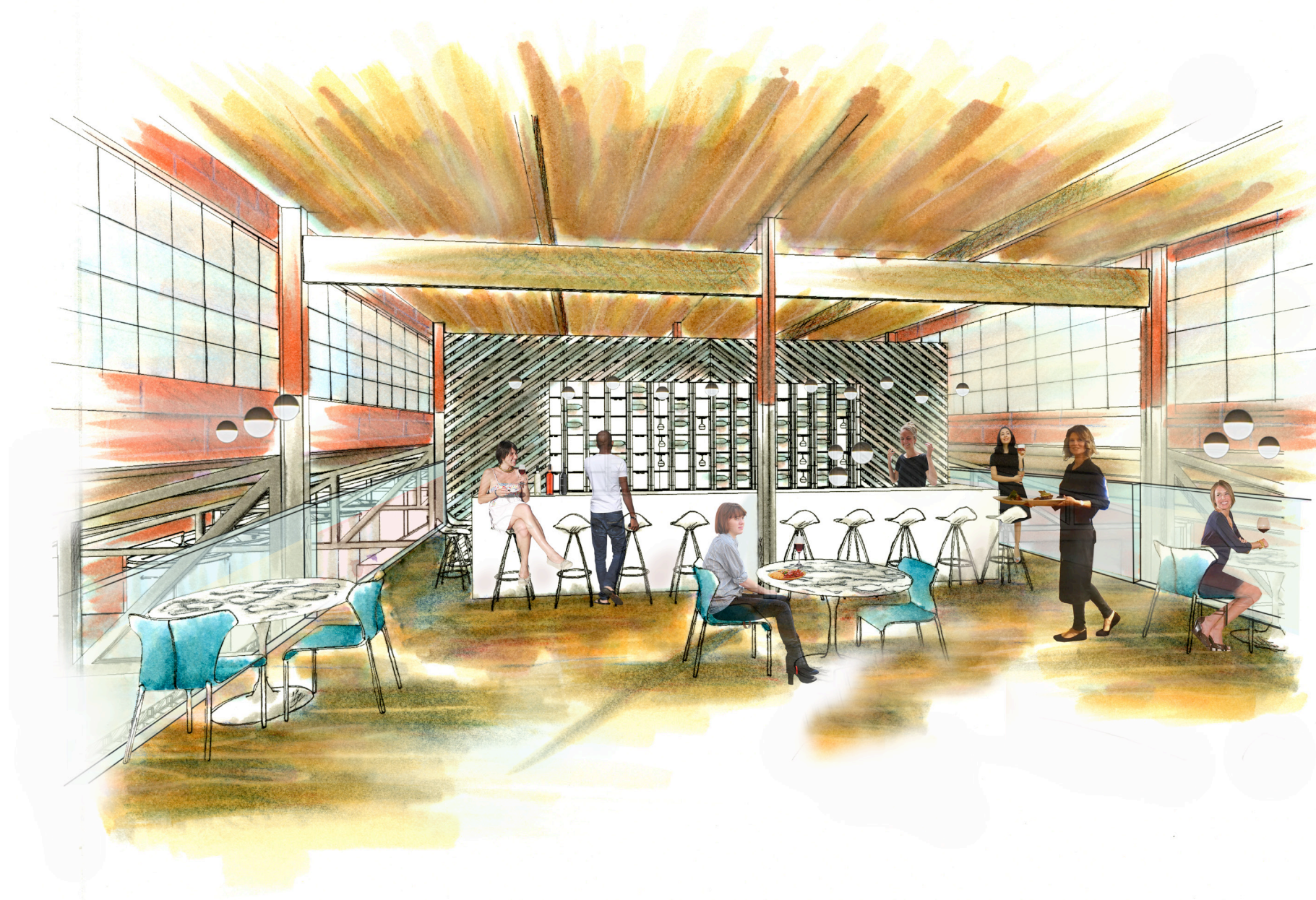


STRING LIGHTS  
MICHAEL ANASTASSIADES



WHITE BACK PAINTED GLASS  
SURFACE PRODUCTS INC.



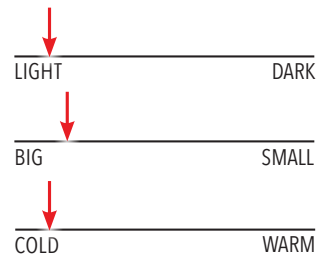


## { PRODUCTION

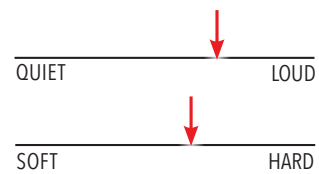
The production facility encompasses the majority of the north and south wings of the first floor, visually connected to surrounding spaces. A garage door opens up into the receiving area, where Virginia grapes are shipped to the facility. Here, grapes are crushed/destemmed and pressed (if white; pressed later if red), and sent into must storage tanks or straight into fermentation tanks, located along the north side of the building. The area that houses the fermentation tanks is dropped two feet from the first floor to express the flow of the process, known in the business as gravity flow production. The wine then descends into the cellar for aging and back up to the first floor for bottling.

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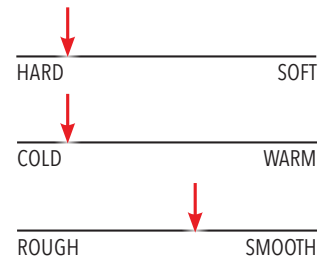
### VISUAL QUALITY



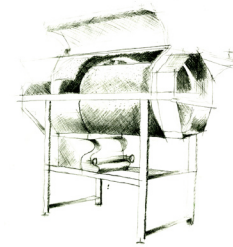
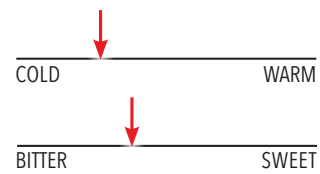
### SOUND QUALITY



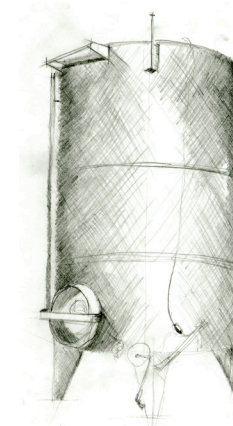
### TACTILE QUALITY



### SMELL QUALITY



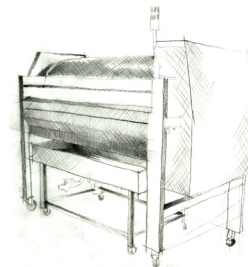
CRUSHER/DESTEMMER



FERMENTATION TANK



THE WESCO PENDANT LIGHT  
BARNLIGHT ELECTRIC



PRESS



WINE FILTER



BOTTLING LINE



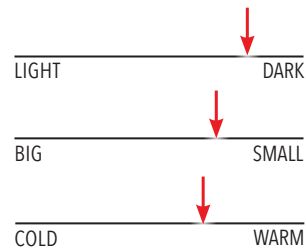


## { CELLAR

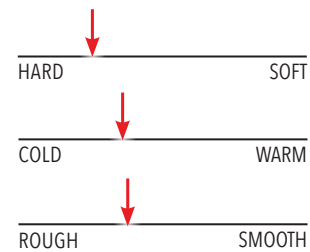
The cellar is accessed from the production facility through a freight elevator so full barrels can be brought down to the cellar for aging. Visitor access to the cellar is via the spiral staircase that wraps around a circular glass elevator. The cellar is where wine goes to age on average one to two years. The space needed to be in a dark, cool place in the building so wine does not spoil, so the basement level was redesigned to provide more space for barrels and circulation.

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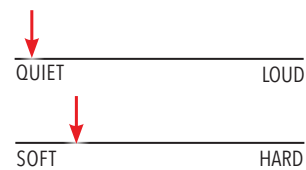
### VISUAL QUALITY



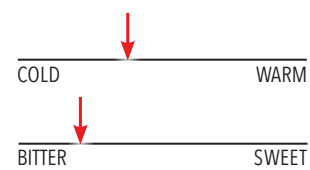
### TACTILE QUALITY



### SOUND QUALITY



### SMELL QUALITY

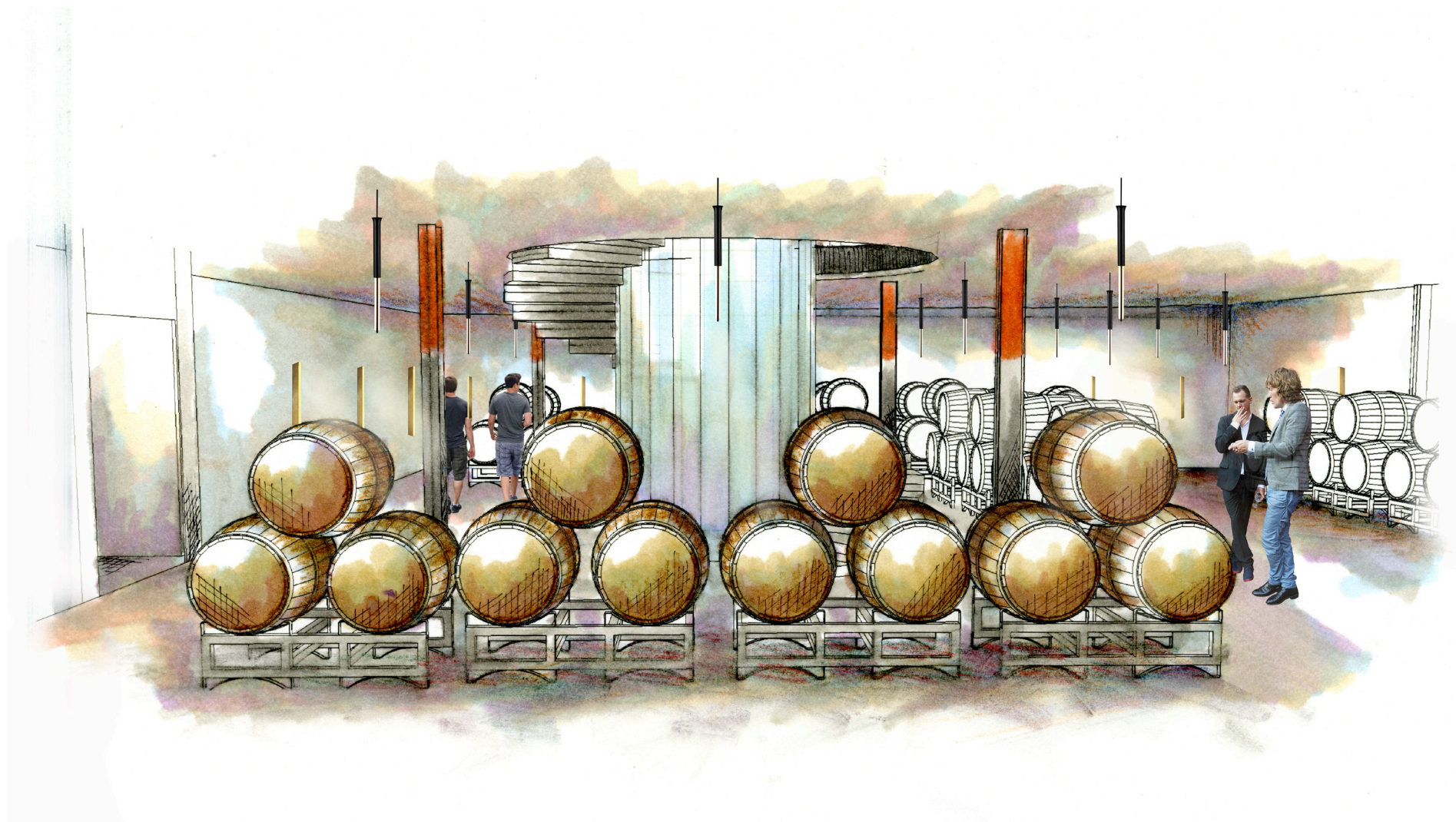


CFL PENDANT ROD  
MICHAEL ANASTASSIADES



TUBE WALL LIGHT  
MICHAEL ANASTASSIADES



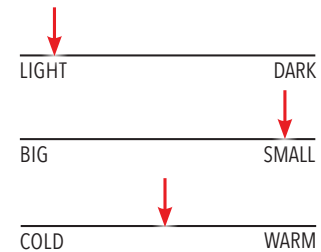


## { LABORATORY

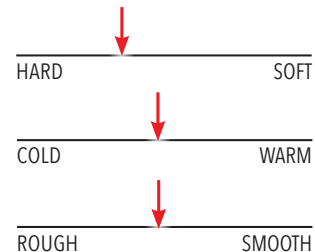
The laboratory is centrally located between the various production facilities. Here, winemakers and analysts embark in research and development for increased quality of Virginia wine. Anything from analysis of the wine itself to the soil from which the grapes came happens here. As the sensory qualities of the wine must be emphasized during analysis, an environment that does not distract is critical. This requires the laboratory to be free of any overwhelming color, odor, light, sound, taste, and temperature. As such the use of white materials is implemented in the lab with white back-painted glass countertops and cabinetry.

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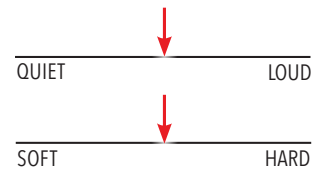
### VISUAL QUALITY



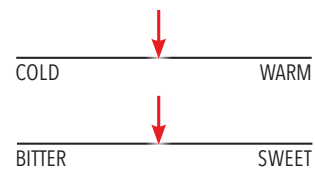
### TACTILE QUALITY



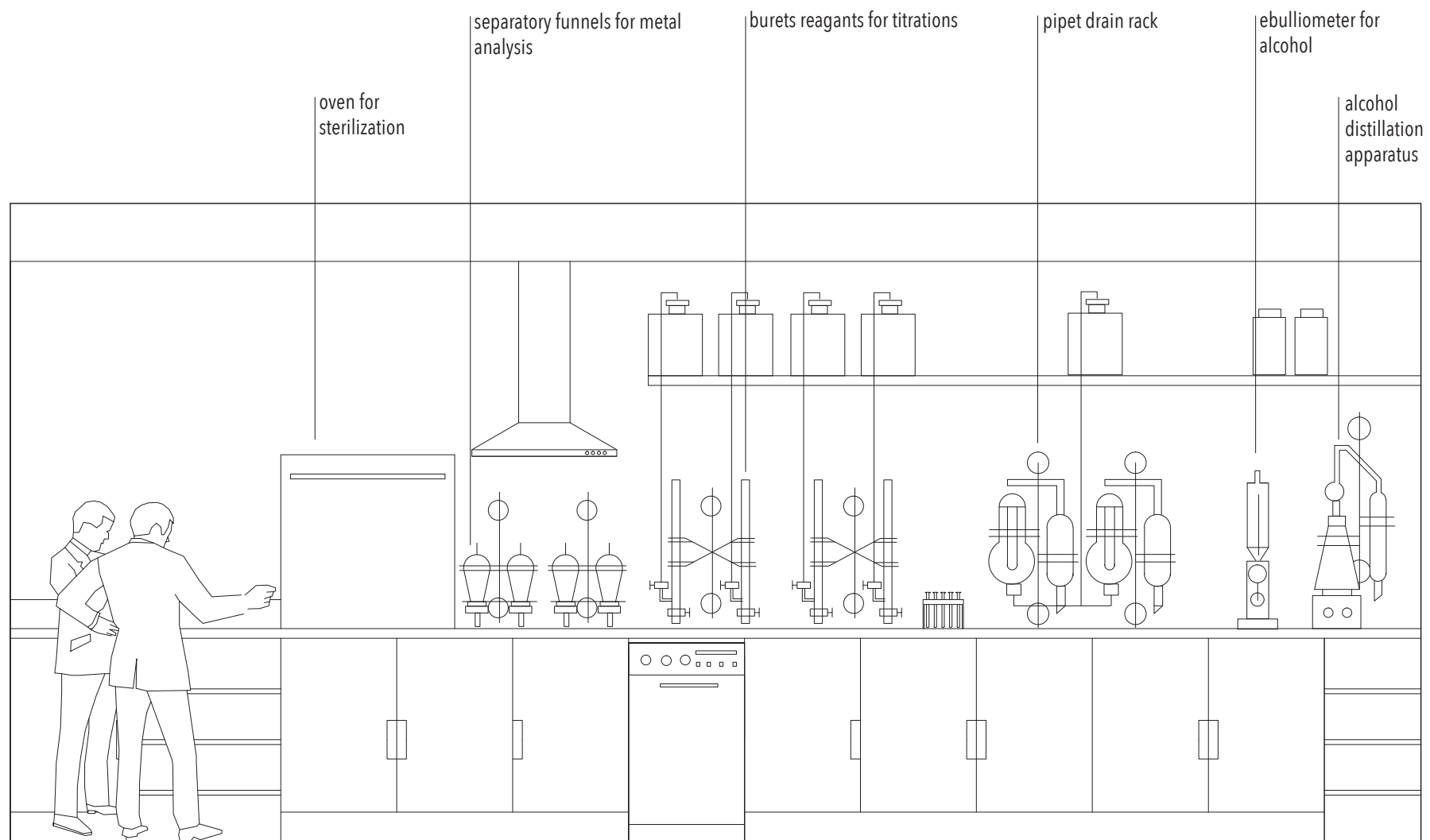
### SOUND QUALITY



### SMELL QUALITY



WHITE BACK PAINTED GLASS  
SURFACE PRODUCTS INC.



ELEVATION OF LAB

0' 8'







EXHIBITION INSTALL + OPENING NIGHT

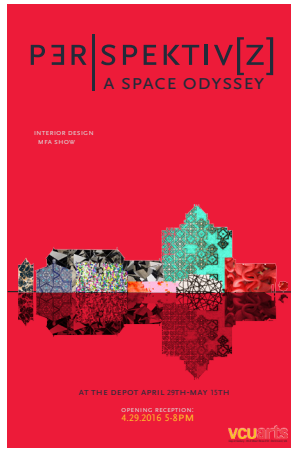
{ INSTALLATION

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{ OPENING NIGHT



THANK YOU to my incredible classmates – Thomas Kennedy, Leah Embrey, Sarah Webb, Jessie Walton, Merian O'Neil, Ashley Whitehead, and Nilufar Makhamatova. It's been an intense and fantastic experience working with each of you over the past two years. There is such depth, excitement, and creativity in your work. It's been amazing to see how much we've grown together as designers.

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